

# EXHIBIT A

**AMENDED EXPERT REPORT OF  
CHRISTOPHER M. JAMES, PH.D.**

*Blackrock Core Bond Portfolio, et al.*  
*v.*  
*U.S. Bank National Association*

**July 28, 2017**

**CONFIDENTIAL**

**PURSUANT TO STIPULATION AND ORDER**

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## I. STATEMENT OF QUALIFICATIONS

1. I am the William H. Dial/Sun Bank Eminent Scholar and Professor of Finance and Economics at the University of Florida. I have previously taught at Cambridge University, the University of Oregon, and the University of Michigan. I have also held positions at the Federal Reserve Bank of San Francisco, Federal Deposit Insurance Corporation (“FDIC”), and the U.S. Department of the Treasury Office of the Comptroller of the Currency. Additionally, I have served as the Securities and Exchange Commission (“SEC”)-approved independent distribution consultant for the Janus Mutual Fund complex.

2. I was a visiting scholar at the Federal Reserve Bank of San Francisco between 2008 and 2014. My research while at the Federal Reserve Bank included analysis of the effects of the financial crisis on the availability of bank credit and on the value of structured mortgage products.

3. My academic research has been in the areas of corporate finance, mortgage markets, bank lending, private equity investments, and financial institutions. I have published numerous articles on issues related to corporate finance, bank lending, private equity, and the performance of mortgage-related securities.

4. Among my publications in peer reviewed journals, such as the Journal of Banking and Finance, Journal of Financial Economics, Journal of Financial and Quantitative Analysis, Review of Financial Studies, and Journal of Finance, are several articles related to mortgage-backed securities (“MBS”), the mortgage foreclosure process, and credit markets. My published works have examined issues related to losses associated with MBS from a number of different perspectives. These works include “How Important is Having Skin in the Game? Originator-Sponsor Affiliation and Losses on Mortgage-backed Securities,” Review of Financial Studies, November 2012 (with C. Demiroglu, presented at the 2012 American Finance Association annual conference), and “State Foreclosure Laws and the Incidence of Mortgage Default,” Journal of Law and Economics, February 2014 (with C. Demiroglu and E. Dudley).

5. I served on the Board of Directors and the Advisory Board to SunTrust Bank of Florida (subsidiary of SunTrust Banks) between 1989 and 2006. As part of my Board duties, I served on the executive committee of the Bank. The executive committee approved all major investment activity (e.g., credit extensions, mortgages, and loan restructurings). From 1990 to 2002, I also served on the academic board of the Turnaround Management Association.

6. I have served on the editorial boards of three scholarly journals. I served as an associate editor of the *Journal of Financial Economics* between 1993 and 2016, as associate editor of the *Journal of Finance* from 1988 through 2000, and as a founding co-editor of the *Journal of Financial Intermediation* from 1988 through 1999. I have provided consulting services to a number of government agencies and corporate entities on issues concerning the valuation of corporate assets, bank management, corporate finance, and real estate-related issues. I have also provided expert witness testimony on issues concerning loss causation, the estimation of damages, the corporate financing process, and corporate restructurings.

7. My curriculum vitae, which includes a list of the publications I have authored, is included as Exhibit 1. A list of my deposition and trial testimony over the last four years is included as Exhibit 2.

## **II. SUMMARY OF PLAINTIFFS' ALLEGATIONS AND THE PUTATIVE CLASS**

8. Plaintiffs allege in their Amended Complaint dated July 2, 2015 that U.S. Bank National Association failed to fulfill its duties as indenture trustee for the 25 Trusts while knowing of pervasive breaches of representations and warranties by the sellers and servicer violations.<sup>1</sup> Specifically, Plaintiffs allege:

As alleged herein, U.S. Bank failed to discharge its duties and obligations to protect Noteholders. Instead, to protect its own business interests, U.S. Bank ignored

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<sup>1</sup> While the Complaint discusses 27 Trusts, Plaintiffs no longer include two Trusts (SASC 2004-GEL2 and SASC 2004-NP1) in the proposed class.

pervasive and systemic deficiencies in the underlying loan pools and the servicing of those loans and unreasonably refused to take any action.<sup>2</sup>

9. U.S. Bank's alleged duties included duties with respect to representations and warranties that the sellers, sponsors, or originators of the mortgage loans made regarding the loans. Plaintiffs allege that if a mortgage loan did not conform to the representations and warranties, then U.S. Bank was required to cause the seller, sponsor, or originator to cure the breach, substitute a new loan for the breaching loan, or repurchase the loan (*i.e.*, pay the Trust a contractually defined repurchase amount, removing the loan from the Trust).<sup>3</sup>

10. Plaintiffs allege that "U.S. Bank knew of numerous defaults by the Issuers (*i.e.*, the Delaware Statutory Trusts). In particular, . . . U.S. Bank knew that the Issuers were breaching their obligations under the Indentures to require [] the Sellers to abide by their representations and warranties with respect to the mortgage loans and to cure, substitute, or repurchase nonconforming mortgage loans."<sup>4</sup>

11. Plaintiffs also allege U.S. Bank knew that the Issuers were breaching their obligations to require "the Servicers to comply with their prudent servicing violations [sic] and remedy servicing breaches," and that "U.S. Bank knew of the Issuers' failures to provide written notice to U.S. Bank of these seller and servicer defaults."<sup>5</sup>

12. Plaintiffs allege that U.S. Bank's alleged breach of duty caused harm to investors in the notes in the following ways:

The Trusts and in turn Noteholders have experienced substantial losses which would not have occurred but for U.S. Bank's failure to perform its responsibilities under the Governing Agreements, the Trust Indenture Act of 1939, 15 U.S.C. §

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<sup>2</sup> Amended Class Action Complaint, *Blackrock Core Bond Portfolio, et al. v. U.S. Bank National Association*, July 2, 2015 ("Complaint"), ¶ 1.

<sup>3</sup> Complaint, ¶ 5.

<sup>4</sup> Complaint, ¶ 16.

<sup>5</sup> Complaint, ¶ 16.

77000 (“TIA”) and common law. By failing to perform its duties, U.S. Bank has caused the Trusts and Noteholders to suffer billions of dollars in losses.<sup>6</sup>

13. Importantly, I understand that Plaintiffs do not allege that U.S. Bank had the obligation to ensure that no loans had underwriting issues at the inception of the Trusts. I understand that, instead, Plaintiffs contend that the indenture trustee for the Trusts at the time learned of the alleged underwriting issues beginning in 2009 and by 2011,<sup>7</sup> and then failed to take steps to address them, including by instituting litigation against the sellers, sponsors, and originators obligated to repurchase defective loans under the terms of the agreements.

14. Plaintiffs’ Renewed Class Certification Motion<sup>8</sup> asks the Court to certify the following class:

a class of all individuals who purchased or otherwise acquired a beneficial interest in a security issued from the Trusts . . . between the date of offering and 60 days from the final order certifying the class and who hold that beneficial interest in the security through the date of final judgment in the District Court, and who were damaged as a result of Defendant U.S. Bank, National Association’s (“U.S. Bank’s” or “Defendant”) alleged breaches of contract and violations of the Trust Indenture Act of 1939 (“TIA”) (collectively, the “Class”)

15. Plaintiffs allege that the putative class encompasses current holders of notes in any of 25 different MBS securitizations or Trusts.<sup>9</sup> Within the Trusts, there are 227 unique securities involving 46 distinct loan groups and more than 100,000 individual loans originated by at least 19 different originators.<sup>10</sup>

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<sup>6</sup> Complaint, ¶ 18.

<sup>7</sup> For example, Plaintiffs allege: “There is ample evidence that beginning in 2009 and by 2011, U.S. Bank knew that each of the Trusts’ loan pools contained high percentages of mortgage loans that materially breached the sellers’ representations and warranties regarding their characteristics and credit quality.” Complaint, ¶ 89.

<sup>8</sup> Plaintiffs’ Memorandum of Points and Authorities in Support of Renewed Motion for Class Certification and Appointment of Class Representatives and Class Counsel, *Blackrock Core Bond Portfolio et al. v. U.S. Bank National Association*, June 21, 2017 (“Plaintiffs’ Renewed Class Certification Motion”), p. 1.

<sup>9</sup> Complaint, ¶ 1.

<sup>10</sup> Based on Prospectus Supplements and ABSNet. See Exhibit 12.A. See also Ex. 33 to Declaration of Timothy A. DeLange in Support of Plaintiffs’ Motion for Class Certification of Class Representatives and Class Counsel.

### **III. SUMMARY OF PLAINTIFFS' EXPERT REPORT**

16. Plaintiffs retained Dr. Michael Hartzmark to offer certain opinions in support of their Renewed Motion for Class Certification. First, he was asked to determine “the current number of Class Members who have purchased and currently hold mortgage-backed securities (“MBS certificates” or “Notes”) in 25 Delaware statutory trusts created between 2004 and 2007 (the “Covered Trusts”).”<sup>11</sup> Second, he was asked to determine “whether there is a common methodology to calculate and allocate the class-wide damages to individual members of the Class.”<sup>12</sup>

#### **A. Overview of Dr. Hartzmark’s Damages Methodology**

17. With respect to his second assignment, to date, Dr. Hartzmark has offered two approaches to damages, though he has not indicated which he ultimately will apply. First, Dr. Hartzmark proposes to aggregate all losses from inception resulting from defective loans and servicing breaches and distribute those losses to current holders through the waterfall today. Second, Dr. Hartzmark suggests that he can calculate damages using a price-inflation approach.

18. Waterfall Method. As to his waterfall method, Dr. Hartzmark concludes that “[d]amages to Class Members caused by the Defendant’s alleged wrongdoing can be calculated and allocated using a common methodology.”<sup>13</sup> Dr. Hartzmark identifies two types of damages: “Put Back Damages” and “Servicing Damages.”<sup>14</sup>

<sup>11</sup> Amended Expert Report of Michael L. Hartzmark, Ph.D, June 21, 2017 (“Amended Hartzmark Report”), ¶ 1 (footnote omitted).

<sup>12</sup> Amended Hartzmark Report, ¶ 1. Dr. Hartzmark also states that “Class Members are: ‘All individuals who purchased or otherwise acquired a beneficial interest in a security issued from the covered trusts between the date of offering and 60 days from the final order certifying the class, and who hold that beneficial interest in the security through the date of final judgment in the District Court.’” Amended Hartzmark Report, ¶ 1.

<sup>13</sup> Amended Hartzmark Report, § III.b.

<sup>14</sup> Amended Hartzmark Report, § VI.

19. Put Back Damages are those that, Dr. Hartzmark asserts, are caused by allegedly defective mortgage loans included in the loan pools in the Trusts and stem from the trustee's alleged failure to fulfill repurchase obligations against sellers of the loans.<sup>15</sup> Dr. Hartzmark explains that he has a four-part methodology that can be used to calculate Put Back Damages, as follows:

1. Dr. Hartzmark asserts that, by using monthly remittance reports and other third-party sources, such as Bloomberg, he can determine "realized losses." In Dr. Hartzmark's view, such losses "are based on the principal balances of loans that have been liquidated, less any proceeds from the liquidation and losses incurred on loans that are modified. Realized losses also include any erosion of the amount of overcollateralization."<sup>16</sup>
2. Dr. Hartzmark's second step is to calculate "latent" losses, which "[ie] dormant in the collateral pools," as opposed to appearing on remittance reports.<sup>17</sup> Dr. Hartzmark asserts that he can calculate expected loan default rates using publicly available information. According to Dr. Hartzmark, such default rates typically vary based on the status of the loans (e.g., current, 30 days delinquent, seriously delinquent).<sup>18</sup> The other piece of latent losses is "loss severity," which Dr. Hartzmark says "can be derived from historical data on past liquidations and recoveries in each of the collateral pools of the Covered Trusts."<sup>19</sup> The latent collateral losses, then, are "[t]he product of the expected default rates, loss severity rates, and the outstanding amount of the mortgage loans in each payment state (e.g., delinquent, in foreclosure, etc.)."<sup>20</sup>
3. Dr. Hartzmark's third step is to calculate the realized loss ratio and the latent loss ratio associated with purportedly "defective" loans.<sup>21</sup> According to Dr. Hartzmark, this calculation would involve selecting a sample of loans from each of the Covered Trusts' collateral pools and

<sup>15</sup> Amended Hartzmark Report, ¶¶ 21-22.

<sup>16</sup> Amended Hartzmark Report, ¶ 34.

<sup>17</sup> Amended Hartzmark Report, ¶ 35.

<sup>18</sup> Amended Hartzmark Report, ¶ 37.

<sup>19</sup> Amended Hartzmark Report, ¶ 42.

<sup>20</sup> Amended Hartzmark Report, ¶ 38.

<sup>21</sup> Amended Hartzmark Report, ¶ 44.

reunderwriting such loans to determine a “defect rate.”<sup>22</sup> Dr. Hartzmark would then calculate the realized loss ratio by dividing the dollar amount of losses of defective loans that have incurred a loss by the total dollar amount of losses of sampled loans that have incurred a loss.<sup>23</sup> Dr. Hartzmark would calculate the latent loss ratio by dividing the dollar amount of active defective loans that are in distressed status by the total dollar amount of active loans in the sample that are in a distressed status.<sup>24</sup>

4. Finally, Dr. Hartzmark would calculate realized losses resulting from defective loans by multiplying realized losses (Step 1) and the realized loss ratio (Step 3), and latent losses resulting from defective loans by multiplying latent losses (Step 2) and the latent loss ratio (Step 3).<sup>25</sup> Dr. Hartzmark claims that the sum of these amounts is Put Back Damages.<sup>26</sup>

20. For Servicing Damages, Dr. Hartzmark proposes to determine the costs and fees (e.g., monthly servicing fees and property maintenance costs) a Trust incurred during the “excessive” time a loan remained in distress or foreclosure. To establish the “normal” period of loan distress, Dr. Hartzmark would rely on an expert, “industry standard[s],” or “state guidelines.”<sup>27</sup> Dr. Hartzmark states that he would determine how long a loan remained in distress beyond the “normal” period and “apply costs and fees that were incurred during those months” to arrive at total Servicing Damages.<sup>28</sup> Alternatively, Dr. Hartzmark states that such damages could be calculated directly by reviewing the servicing files for the loans.<sup>29</sup>

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<sup>22</sup> Amended Hartzmark Report, ¶¶ 44-45.

<sup>23</sup> Amended Hartzmark Report, ¶ 46.

<sup>24</sup> Amended Hartzmark Report, ¶ 46. Dr. Hartzmark claims that “if sampling were to be rejected by the Court,” he would jettison loss ratios and calculate losses attributable to defective mortgage loans based on a “loan-by-loan analysis,” relying on Plaintiffs to re-underwrite all loans in the collateral pools to determine which loans have material breaches. Amended Hartzmark Report, ¶¶ 47, 51. Dr. Hartzmark does not explain why it would be reasonable to rely on Plaintiffs to re-underwrite *all* loans, while he would rely on a re-underwriting expert engaged by class counsel to re-underwrite *sampled* loans. *See* Amended Hartzmark Report, ¶ 45.

<sup>25</sup> Amended Hartzmark Report, ¶¶ 48-49.

<sup>26</sup> Amended Hartzmark Report, ¶ 50.

<sup>27</sup> Amended Hartzmark Report, ¶¶ 60-62.

<sup>28</sup> Amended Hartzmark Report, ¶¶ 61, 66.

<sup>29</sup> Amended Hartzmark Report, ¶ 60.

21. Dr. Hartzmark also claims that he can allocate Put Back and Servicing Damages to each individual Noteholder “based on the strict waterfall rules for distributing payments or distributions in the Governing Agreements.”<sup>30</sup>

22. Price-Inflation Model. As discussed below, I understand from counsel that Plaintiffs may recover only actual damages—out-of-pocket losses, not benefit-of-the-bargain damages—under the TIA. Dr. Hartzmark’s waterfall method purports to calculate only benefit-of-the-bargain damages, and therefore cannot measure TIA damages. In his Rebuttal Report (but not in his Amended Report), Dr. Hartzmark asserts that he could calculate out-of-pocket losses based on a price-inflation theory.<sup>31</sup> According to Dr. Hartzmark, investors who “expect[ed] that [U.S. Bank] [would] act to staunch projected losses on defective loans by forcing repurchase” may have placed value on that expectation.<sup>32</sup> Dr. Hartzmark asserts that, as a result, these investors may have paid more for their RMBS notes than they would have if the investors had known that U.S. Bank would not attempt to force repurchases.<sup>33</sup> Dr. Hartzmark thus concludes that these investors may have suffered “out-of-pocket” losses—even if they made money on their investments.<sup>34</sup>

#### **B. Overview of Dr. Hartzmark’s Numerosity Opinion**

23. Dr. Hartzmark asserts that “the number of current Class Members in the 25 Covered Trusts is in excess of 272.”<sup>35</sup> To determine the number of class members, Dr. Hartzmark has counted “beneficial owners who currently hold Notes” in all 25 of the Trusts.<sup>36</sup> Dr. Hartzmark does not address the additional class-membership requirement Plaintiffs’ class

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<sup>30</sup> Amended Hartzmark Report, ¶ 67.

<sup>31</sup> Expert Rebuttal Report of Michael L. Hartzmark, Ph.D, March 3, 2017 (“Hartzmark Rebuttal Report”), ¶¶ 10-11, 13 & n.23.

<sup>32</sup> Hartzmark Rebuttal Report, ¶ 10.

<sup>33</sup> Hartzmark Rebuttal Report, ¶¶ 10-11.

<sup>34</sup> Hartzmark Rebuttal Report, ¶¶ 10-11.

<sup>35</sup> Amended Hartzmark Report, ¶ 20.

<sup>36</sup> Amended Hartzmark Report, ¶ 16.

definition imposes—that current holders be “damaged as a result of” U.S. Bank’s alleged conduct.

#### IV. ASSIGNMENT

24. I have been asked by counsel for U.S. Bank to comment on issues pertaining to (i) certain opinions offered by Dr. Hartzmark in expert reports submitted by him to date in this matter, including the Amended Hartzmark Report and the Hartzmark Rebuttal Report; (ii) whether there are economic conflicts of interest among investors in the 25 private-label RMBS securitizations at issue in this case, including between named Plaintiffs and other members of the putative class; (iii) mortgage origination, MBS securitizations, and the housing and MBS markets during the period 2005 through the present; (iv) whether certain facts and arguments in the litigation will differ across the 25 Trusts, 46 loan pools, and numerous investors and transactions at issue; (v) whether Dr. Hartzmark has offered a method to identify class members; and (vi) certain additional matters discussed below. I have not been asked to offer, nor do I offer, a damages model of my own.

25. A complete list of the documents that I have relied upon in forming my opinions is attached as Exhibit 3. My work in this matter is ongoing. The opinions presented in this report are based on the information available to me as of the report date. I reserve the right to supplement or modify my opinions if new information comes to light, and to respond to any additional reports, opinions, or arguments offered by Plaintiffs or their experts.

26. In connection with my services, including the preparation of this report and any testimony I will provide at deposition or in court, I am being compensated at my regular hourly rate of \$950. I am also being reimbursed for reasonable expenses, such as travel expenses. My compensation does not depend on the opinions that I express, on the outcome of this litigation, or on the outcome of any proceedings within the litigation. I have been assisted in this matter by staff of Cornerstone Research,<sup>37</sup> who worked under my direction.

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<sup>37</sup> I also received certain implied loss information via Intex from Duff & Phelps.

## V. SUMMARY OF OPINIONS

27. Overview of MBS and the Housing and MBS Markets. To assess the existence and economic consequences of the alleged breaches of duty in this litigation, it is necessary to understand the structure of MBS, factors that affect the performance of mortgage loans (and concomitantly, that affect the performance and value of MBS certificates and notes), and macroeconomic conditions in the housing and MBS markets during the period at issue. I discuss these background topics in Section VI of my report.

28. Opinion 1. Dr. Hartzmark proposes a model that would compensate class members regardless of the harm they actually suffered, a model named Plaintiffs prefer because [REDACTED].

(a) Dr. Hartzmark does not put forth a model that is any way connected to the damages allegedly suffered by individual members of the putative class. Rather than calculating losses at the individual-investor level, Dr. Hartzmark proposes to aggregate Trust-level losses associated with defective loans and give each current noteholder in a tranche a pro rata share of those Trust-level damages, regardless of the economic harm, if any, the class member actually suffered. Dr. Hartzmark's model does not attempt to calculate individualized damages because, under a true out-of-pocket or benefit-of-the-bargain model, most [REDACTED]

[REDACTED]. These named Plaintiffs therefore have an incentive, in conflict with class members who [REDACTED], to propose a model like Dr. Hartzmark's.

(b) Dr. Hartzmark cannot solve these problems through New York's automatic-assignment rule or a price-inflation model. Dr. Hartzmark assumes, as Plaintiffs argue, that a current noteholder who [REDACTED] can assert the breach-of-contract claims of prior holders of the note [REDACTED]. I do not take a position on this issue. Even assuming that all prior holders' contract claims transferred to current holders, however, Dr. Hartzmark's approach remains problematic.

(1) Even if current noteholders possess all prior holders' contract claims, Dr. Hartzmark's methodology would create conflicts and individualized issues for class members over which waterfall rules should be applied in allocating damages. By aggregating losses and proposing a one-time payment through the waterfall today, Dr. Hartzmark awards damages to holders in tranches without losses while failing to award damages to those who were actually injured—junior holders—and thus disadvantages junior holders in several ways. Dr. Hartzmark's model would place some holders in a worse position than they otherwise would be if they had filed their own individual lawsuits against U.S. Bank or under other damages models. Dr. Hartzmark disputes this by asserting that applying his methodology would give ancillary benefits to all class members and that all of them would be made better off compared to doing nothing. However, this is the wrong comparison. The relevant comparison is not whether a noteholder is better off than it would be without any damages award at all. Rather, the relevant comparison is whether a noteholder under Dr. Hartzmark's model is in at least the same position as it would be in an individual action or under a model that actually compensates holders for their economic harm as a result of the alleged breaches.

(2) In any event, Dr. Hartzmark's model cannot measure TIA damages, and his price-inflation approach is flawed. I understand from counsel that New York's automatic-assignment rule does not apply to TIA claims and, with respect to their TIA claims, class members can recover only those realized out-of-pocket losses that they themselves have incurred. Dr. Hartzmark's model fails to measure individualized out-of-pocket losses. Responding to my opinion that he fails to measure out-of-pocket losses, Dr. Hartzmark asserted in a few paragraphs of his Rebuttal Report in support of Plaintiffs' first class-certification motion that he could devise a purported "out-of-pocket method," "like in securities matters," based on "price inflation" resulting from "investors' expectation that" U.S. Bank would "act to staunch projected losses on defective loans by forcing repurchase."<sup>38</sup> Dr. Hartzmark's "price inflation"

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<sup>38</sup> Hartzmark Rebuttal Report, ¶¶ 10, 13.

approach is conceptually flawed from an economic perspective. First, the approach purports to import a damages approach for securities class actions under Rule 10b-5 of the Securities Exchange Act of 1934, even though such cases differ from this one in many key respects. In particular, the RMBS market was not efficient, and Plaintiffs have identified no corrective disclosures. As a result, Dr. Hartzmark's price-inflation approach would require individualized inquiry into the subjective "expectations" of each investor and a complex analysis of causation and damages. Second, Dr. Hartzmark's approach creates conflict among class members over whether to apply the benefit-of-the-bargain model or the price-inflation approach.

29.     *Opinion 2.* Dr. Hartzmark's methodology does not address the relevant but-for world, and the proper but-for world creates individualized issues and conflicts among the class. Dr. Hartzmark fails to compare what actually happened in this case with what would have happened if U.S. Bank had done everything Plaintiffs say it should have done—*i.e.*, he fails to measure the economic difference between the actual world and the "but-for" world. He ignores elements of the "but-for" world in ways that are inconsistent with Plaintiffs' allegations and U.S. Bank's duties under the Trusts' governing agreements. Dr. Hartzmark incorrectly assumes that all repurchase actions would have succeeded, that all losses attributable to breaching loans would have been avoided, that all repurchases would have happened simultaneously rather than over time, and that all recovery repurchases would pass through the waterfall not when received but as of today. And though he contends that "what would have happened (and when) and what could have happened (and when) is not relevant for the construction of the appropriate but-for world," that is inconsistent with statements elsewhere in his report and with sound economics.<sup>39</sup> In constructing a proper but-for world, moreover, class members would conflict or have individualized issues regarding the repurchase process. For example, different putative class members necessarily would have conflicts of interest based on the timing of the trustee's discovery of alleged seller and servicer breaches, whether there was a breach requiring

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<sup>39</sup> Hartzmark Rebuttal Report, ¶ 23.

repurchase, and the timing of any recovery that the trustee would have obtained in pursuing repurchase remedies.

30.        Opinion 3. Dr. Hartzmark's methodology cannot account for opt-outs. The existing waterfall rules for the Trusts cannot be used to calculate payments for both opt-out investors and the investors who remain in the case, and Dr. Hartzmark does not explain whether and how new waterfall rules can be established to calculate payments for opt-out holders. Dr. Hartzmark also fails to consider the effects that the creation of opt-out tranches would have on credit enhancements in the Trusts and the ability of junior holders to evaluate whether they should opt out.

31.        Opinion 4. Dr. Hartzmark improperly ignores factors other than the alleged breaches that may have contributed to defaults on the loans at issue and instead assumes that all losses on defective loans were caused by U.S. Bank's alleged breaches. Dr. Hartzmark's model is inconsistent with research bearing on the multiple factors that lead to increased delinquencies during the economic crisis. Declining housing prices and rising unemployment were strongly correlated with delinquencies, defaults, and loss severities. At the same time, there was disruption in the MBS market, including originator bankruptcies and credit downgrades. Given the economic crisis, moreover, I would not conclude that defaults or credit downgrades were necessarily indicative of underwriting failures and breaches of representations and warranties. For example, credit rating downgrades were rampant across virtually all MBS certificates and notes as housing prices declined in 2007, 2008, and thereafter.

32.        Opinion 5. I understand that current legal authority provides that, for a class to be certified, questions in the litigation must be resolvable through common answers, and that common questions must predominate over questions resolvable only through individualized answers. While I express no opinion on whether either of those things is true in this case, in Section XI of my report, I describe a number of ways in which the Trusts, loan pools, and securities in this case differ from each other. Across the 25 Trusts, there were at least 19 major originators, all of which had their own sets of underwriting guidelines and representations and

warranties. Thus, there will have to be Trust-by-Trust and loan-by-loan assessments of which loans violated underwriting guidelines and breached representations and warranties. Moreover, the Trusts differed in numerous ways in terms of the characteristics of the loans they contained, the delinquency and default rates they could be expected to experience, and the timing and severity of credit-rating downgrades. As for delinquency rates, for example, (i) the delinquency rates for the 25 Trusts would be expected to vary substantially given the different types of loans contained in the different Trusts; and (ii) the delinquency rates for the 25 Trusts did vary substantially relative to each other and relative to the delinquency rates of comparable trusts. And as to ratings downgrades, comparable notes from different Trusts were downgraded at different times and to different degrees. As a result, even assuming that Plaintiffs are correct that defaults, delinquencies, and credit-rating downgrades contributed to what Plaintiffs say was U.S. Bank's discovery of loans that breached the sellers' representations and warranties, the evidence bearing on the import of defaults, delinquencies, and credit-rating downgrades will vary from Trust to Trust.

33. *Opinion 6.* Dr. Hartzmark does not propose a method for identifying class members. Dr. Hartzmark proposes to identify class members by counting investors in all 25 Trusts, despite differences in the Trusts. Moreover, Dr. Hartzmark offers no method for determining which current holders "were damaged as a result of" U.S. Bank's alleged conduct, an additional requirement imposed by Plaintiffs' proposed class definition.

## **VI. OVERVIEW OF MBS AND THE HOUSING AND MBS MARKETS**

34. In this section, I discuss the structure of MBS, factors that affect the performance of mortgage loans (and concomitantly, that affect the performance and value of MBS certificates and notes), and macroeconomic conditions in the housing and MBS markets during the period at issue.

35. I co-authored a research paper in 2011 that provides an overview of the mortgage securitization process.<sup>40</sup> As I describe therein, the process involves assembling hundreds or thousands of different mortgage loans into one or more pools or groups, and selling to investors the rights to receive cash flows from the pools.

36. A mortgage originator (often a bank, but sometimes a non-bank mortgage lender) begins the process by extending mortgage credit to a borrower. The originator may extend this credit to a prospective homebuyer (in the case of a purchase-money loan) or to an existing homeowner (in the case of a refinance loan). The originator is expected to follow its mortgage origination/underwriting guidelines, which may have requirements for such things as borrower credit score (FICO score), maximum loan-to-value (“LTV”) ratio,<sup>41</sup> and maximum debt-to-income (“DTI”) ratio,<sup>42</sup> and also may provide for exceptions to such requirements in certain circumstances or on a discretionary basis. Originators commonly offer numerous different types of mortgage products, with the riskier loans usually requiring the borrowers to pay higher interest rates in order to compensate for that perceived increased risk.

37. An entity known as a “sponsor” then sells the mortgage loans to another entity known as a “depositor,” which, in turn, resells them to a bankruptcy-remote MBS trust. The sponsor may have been the originator of the mortgage loans, or it may have purchased the loans from an affiliated or non-affiliated originator. The sponsor sets various parameters for the mortgages to be included in the trust (*e.g.*, minimum FICO score and maximum LTV ratio), as

<sup>40</sup> Cem Demiroglu and Christopher James, “Works of Friction? Originator-Sponsor Affiliation and Losses on Mortgage-backed Securities,” AFA 2012 Chicago Meetings Paper, January 21, 2011. This research paper was later published in the *Review of Financial Studies* in 2012. See Cem Demiroglu and Christopher M. James, “How Important Is Having Skin in the Game? Originator-Sponsor Affiliation and Losses on Mortgage Backed Securities,” *Review of Financial Studies*, Volume 25, no. 11, November 2012, pp. 3217–3258.

<sup>41</sup> An LTV ratio is the ratio of the amount of the subject mortgage to the value of the property. For example, if the subject mortgage is for \$80,000 and the property is worth \$100,000, the LTV ratio is 80%. A combined LTV ratio, or CLTV ratio, is the ratio of all mortgages on the property to the value of the property.

<sup>42</sup> A DTI ratio is the ratio of the borrower’s monthly debt obligations to the borrower’s monthly income.

well as the overall characteristics of the loan pool (such as average FICO score, average LTV ratio, the percentage of loans from various originators, and geographic diversification of the loans).

38. As homeowners make their monthly principal and interest payments, the trust receives these amounts, less servicing and other fees. These cash flows are segmented within the trust into various “tranches.” Each tranche is represented by notes that are sold to investors, which entitle the investors to receive the cash flows assigned to the tranche. Each note is a separate and distinct security.

39. Some trusts have just a single loan pool from which the cash flows are derived. Others have multiple pools, each of which contains an entirely distinct set of loans. The 25 Trusts in this case include both single- and multi-pool trusts.

40. For trusts that have multiple loan pools, different tranches can be supported by different loan groups. For example, one set of tranches might be supported by loan group 1, another set of tranches might be supported by loan group 2, and still another set might be supported by both loan groups or by a different group altogether. And because performance of these loan groups may vary over time, the performance of holdings in different tranches likewise varies. Such diverse structures are present in the Trusts at issue in this litigation.

41. A structural feature known as cross-collateralization further complicates matters. Cross-collateralization creates the possibility of interdependence between tranches that are collateralized by a specific loan group and those collateralized by another loan group. For example, the prospectus supplement for TMST 2007-1 describes cross-collateralization as follows:<sup>43</sup>

In certain very limited circumstances relating to a mortgage loan group’s experiencing disproportionately high realized losses, principal and interest collected from the other mortgage loan groups may be applied to pay principal or

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<sup>43</sup> Thornburg Mortgage Securities Trust 2007-1, Prospectus Supplement to Prospectus dated February 20, 2007, filed February 23, 2007, p. S-7.

interest, or both, to the offered notes related to the mortgage loan group experiencing those conditions.

Even when cross-collateralization is provided for in a given trust, whether or not it actually takes place can depend on whether, and to what extent, losses otherwise would befall a particular tranche, and other complex issues addressed by the trust's governing documents.

42. Although, as noted, cash flows that the trust receives are passed through to investors in the various tranches, they typically are not passed through in a simple pro rata or sequential fashion. Rather, they are allocated to the various tranches according to a complex prioritization mechanism known as a "waterfall." In its most simplified form, cash flows are paid first to "senior" tranches, then to subordinated or "mezzanine" tranches, then to even more subordinated or "junior" tranches, and finally to tranches referred to as "residual" or "equity" tranches. Conversely, if cash flows are *not* forthcoming because homeowners default on their mortgages, such losses are allocated in the reverse order: first to the residual or equity tranches, then to the junior tranches, then to the mezzanine tranches, and finally, if the losses are severe enough to wipe out all those tranches, to the senior tranches. Such losses on the mortgage loans are called "realized losses."

43. For any given trust, however, it would be a mistake to think of the waterfall in such a static and simplified manner. Every waterfall is governed by a complex set of rules set forth in the indenture that dictate the distribution of cash flows to holders, and different rules may apply over the life of the trust. The structure of the waterfall at any given point in time is dependent on a variety of factors, including the timing and nature of the cash flows, as well as the principal balances of each tranche. For example, many trust waterfall rules distinguish between cash flows generated from principal payment on the collateral and recoveries obtained by the trust after a loan has been liquidated. Most securitizations similarly have payment triggers built into the waterfall rules based on the amount that a trust is overcollateralized. When an overcollateralization target is exceeded (that is, the principal balance of the collateral in the trust is more than the principal balance on the notes by a specified amount), the cash flows might be

very different than when the trust falls below the target.<sup>44</sup> As a result, a trust's waterfall that was applicable five years ago may not be applicable today.

44. Furthermore, most MBS securitizations (including those at issue in this matter) contained features that made them even more complex. For instance, some tranches were interest-only ("I/O") tranches that received only the *interest* components of homeowners' monthly mortgage payments; these tranches did not receive any principal payments. Other features also lead to cash flow waterfall mechanisms that are far more complex than the illustrative example used above.

45. As the foregoing indicates, the presence of junior tranches makes the mezzanine tranches safer investments than they otherwise would be, and the presence of both the junior and mezzanine tranches makes the senior tranches safer yet. This senior-subordinate structure is a form of "credit enhancement" and permits a single trust to sell different classes of notes with different risk/return profiles to different investors with different appetites for risk and return. That is part of the reason that each class of notes is sold as a different security. The senior-subordinate structure, and other credit-enhancement mechanisms, when structured to account for additional risk, also permit senior tranches to be safer than they otherwise would be even if the underlying portfolio of loans is quite risky (*e.g.*, subprime loans with high LTV ratios extended to borrowers with low FICO scores and high DTI ratios). With the senior-subordinate structure, because losses are allocated to the more junior tranches first, the senior tranches can avoid losses of principal for years even if a trust experiences severe losses.

46. Because each tranche is a different security with a different risk/return profile, each receives a separate credit rating from one or more firms recognized by the Securities and Exchange Commission as Nationally Recognized Statistical Rating Organizations, or NRSROs (although very junior tranches, such as residual or equity tranches, may not be rated). The major

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<sup>44</sup> See Aegis Asset Backed Securities Trust 2004-6, Prospectus Supplement to Prospectus dated October 21, 2004, filed December 8, 2004, pp. S-35–38 for a definition of the term "trigger event."

rating agencies are Standard and Poor's ("S&P"), Moody's Investors Service, Inc. ("Moody's"), and Fitch Ratings, Inc. ("Fitch").

47. Sources of information about MBS notes and the mortgages that back them include so-called "distribution reports" or "remittance reports." These are reports that are prepared every month setting forth the outstanding principal balance of the mortgages backing the notes in the trust, realized losses suffered by the various tranches, the number and outstanding balances of mortgages in the trust that are delinquent, and other facts bearing on the performance of the notes and of the underlying mortgage collateral. These reports are publicly available on the internet for any actual or prospective MBS investor to review (though registration on a website may be required to access them).

**VII. OPINION 1: DR. HARTZMARK PROPOSES A MODEL THAT WOULD COMPENSATE CLASS MEMBERS REGARDLESS OF THE HARM THEY ACTUALLY SUFFERED, A MODEL NAMED PLAINTIFFS PREFER BECAUSE THE VAST MAJORITY HAVE NOT SUFFERED ECONOMIC LOSSES.**

**A. Dr. Hartzmark Improperly Calculates Damages at the Trust Level To Be Awarded Through the Waterfall Rather Than Compensating Investors That Suffered Losses.**

48. Counsel has informed me that a different measure of damages applies to each of Plaintiffs' two claims. Based on my understanding of the types of damages available on Plaintiffs' claims, Dr. Hartzmark's model does not measure recoverable damages for either.<sup>45</sup>

49. My understanding is that, under the Trust Indenture Act ("TIA"), Plaintiffs can recover only actual damages. I understand actual damages are limited to out-of-pocket losses and do not include benefit-of-the-bargain damages, such as damages based on a pro rata share of

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<sup>45</sup> [REDACTED]

what a Trust would have received had U.S. Bank performed as Plaintiffs allege it should have performed. Dr. Hartzmark's damages model does not measure out-of-pocket losses.<sup>46</sup>

50. For their breach-of-contract claim, I understand that Plaintiffs can recover benefit-of-the-bargain damages. Counsel has informed me that benefit-of-the-bargain damages put a plaintiff in the position it would have been had the contract been fully performed. Even assuming that Plaintiffs can recover consequential damages as the benefit of the bargain (an issue on which I offer no opinion, though counsel has informed me that many of the indentures disclaim consequential damages), Dr. Hartzmark does not properly measure benefit-of-the-bargain damages. As discussed below, one possible model for such damages would compare on an investor-by-investor basis the value of the cash flows that each class member would have received had U.S. Bank not breached its alleged duties (the "but-for" world) and the value of cash flows that each class member actually received (the actual world). Dr. Hartzmark, however, does not put forth a methodology that calculates what an *individual holder* would have received in the "but-for" world and compares it to what that individual holder actually received.

51. Rather than calculating losses at the individual-investor level, Dr. Hartzmark proposes to aggregate Trust-level losses associated with defective loans and give each current noteholder a pro rata share of those Trust-level damages:

The principle supporting the allocation of tranche-level damages for each of the Covered Trusts directly to Class Members is based on allocating the amount of dollars in financial benefits that flows from the allocation of damages via the waterfall. For each tranche, the financial benefit would be distributed in equal amount for each of that tranche's Notes. Thus, for example, if a hypothetical Tranche A was composed of 193,666 certificates (or Notes) and it were to receive a damages recovery or financial benefit of \$5,000,000 based on

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<sup>46</sup> [REDACTED]

flowing the aggregate damages through the waterfall, each Noteholder of that tranche would receive \$25.82 ( $=\$5,000,000/193,666$ ) for each Note they held. Therefore, if a Noteholder with 1,000 Class A Notes was a Class Member, he or she would receive \$25,820. Or, if Noteholder X was a Class Member who held ten times more of Class A Notes than Noteholder Y, then Noteholder X would receive ten times the amount of compensation from a damages award that Noteholder Y would receive.<sup>47</sup>

52. Such a pro rata allocation does not measure individual holders' damages. Dr. Hartzmark's model assumes that the alleged economic harm is spread evenly across investors in a particular tranche regardless of when they purchased and how much they lost. This mechanism does not compensate an investor for the economic harm the investor allegedly suffered. Instead,

[REDACTED]  
[REDACTED]  
[REDACTED].<sup>48</sup> For this very reason, [REDACTED]  
[REDACTED],<sup>49</sup> something his model fails to

do here.

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<sup>47</sup> Amended Hartzmark Report, ¶ 69.

<sup>48</sup> [REDACTED]

<sup>49</sup> [REDACTED]

53. In this case, Dr. Hartzmark's model does not attempt to calculate individualized damages. Under a true out-of-pocket or benefit-of-the-bargain model, [REDACTED]

[REDACTED]. Most named Plaintiffs [REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED].

54. [REDACTED]

[REDACTED]

[REDACTED]

55. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

<sup>51</sup> [REDACTED]

[REDACTED]

[REDACTED]

<sup>52</sup> [REDACTED]

[REDACTED].<sup>53</sup> Because the historical performance of the underlying loan pools of all of the Trusts at issue was publicly known when the named Plaintiffs purchased, that performance and expectations for future performance were reflected in the prices the named Plaintiffs were

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<sup>50</sup> Implied losses are realized losses to the trust collateral that, under the terms of the governing agreements, are not recognized and do not result in write-downs at the tranche level until final maturity of the transaction.

<sup>51</sup> Complaint, ¶ 7.

<sup>52</sup> Complaint, ¶ 7.

<sup>53</sup> See Exhibit 4.

willing to pay for their notes. I would expect that sophisticated investors such as PIMCO and BlackRock could accurately model future expected losses, as Dr. Hartzmark claims (paragraphs 35–43 of his amended report) he can do based on publicly available information, so they could choose to purchase these securities at prices that reflected the projected future loss and that they believed would still be profitable.<sup>54</sup> In other words, they would not have been harmed by the alleged wrongdoing because any impact of that wrongdoing would have been reflected in a lower purchase price. [REDACTED]

[REDACTED]

[REDACTED].

56. In the time since the named Plaintiffs purchased their notes, they have received significant cash flows in the form of principal and interest payments, likely including payments on loans that Plaintiffs contend U.S. Bank should have removed from the Trusts, [REDACTED]

[REDACTED]

[REDACTED]

Accordingly, named Plaintiffs have an incentive, in conflict with class members [REDACTED]  
[REDACTED], to propose a model that aggregates damages at the Trust level and then distributes those damage payments to current holders. Indeed, [REDACTED]  
[REDACTED], a Trust-level damages model is the only way for those Plaintiffs to receive any recovery.

57. In sum, Dr. Hartzmark improperly calculates damages at the Trust level rather than the individual-investor level.

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54 [REDACTED]

**B. Dr. Hartzmark Cannot Solve These Problems Through New York's Automatic-Assignment Rule or a Price-Inflation Model.**

58. Dr. Hartzmark assumes that, as Plaintiffs argue, a current noteholder can assert the claims of each prior holder of the note because claims of the seller are assigned automatically to the purchaser upon transfer of the note under N.Y. Gen. Oblig. Law § 13-107. Counsel has informed me that the parties dispute whether breach-of-contract claims are automatically assigned. I offer no opinion regarding the validity of this legal argument. Even assuming that all prior holders' contract claims transferred to current holders, however, Dr. Hartzmark's damages approach remains problematic. First, Dr. Hartzmark's model still awards damages to those who [REDACTED], creating conflicts between junior and senior holders. Second, I understand from counsel that Plaintiffs concede that a seller's TIA claim does not automatically transfer to the purchaser under New York law. As a result, Dr. Hartzmark's model does not measure current holders' out-of-pocket losses for purposes of TIA damages. Dr. Hartzmark's suggestion that he can measure out-of-pocket losses based on a price-inflation approach is flawed for numerous reasons.

**1. Even assuming current noteholders can assert contract claims of prior holders, Dr. Hartzmark's damages methodology creates conflicts and individualized issues.**

59. Even if current holders possess all prior holders' breach-of-contract claims by operation of New York's automatic-assignment rule, Dr. Hartzmark's model is improper. By aggregating losses and proposing a one-time payment through the waterfall today, Dr. Hartzmark awards damages to holders in tranches without losses while failing to award damages to those who [REDACTED]

[REDACTED]. Moreover, Dr. Hartzmark's model creates serious conflicts among class members regarding how to allocate damages. Dr. Hartzmark's damages methodology first calculates what he purports to be the losses associated with allegedly defective loans. This is a fixed amount of money, and therefore awarding damages to one party will necessarily diminish the amount of funds available to be received by another. As a result, conflicts among putative class members are inevitable.

a. **Dr. Hartzmark’s methodology disadvantages junior holders and fails to compensate them for their losses, creating conflicts between junior and senior holders.**

60. As described in the Amended Rebuttal Expert Report of Jennifer Press, (“Amended Press Report”), Dr. Hartzmark’s methodology could disproportionately harm holders in junior tranches by allocating damage payments from the junior tranches that suffered losses to the senior tranches that did not. As a result, junior holders are worse off under Dr. Hartzmark’s methodology than they would be in individual actions.

61. Because Dr. Hartzmark relies on the indenture’s waterfall to allocate damages payments, the model cannot compensate junior tranche holders *today* for all of their losses, even if Plaintiffs’ re-underwriting expert concludes that all of the losses are attributable to allegedly defective loans. That is because, in many instances, under a waterfall’s senior-subordinate structure, holders in senior tranches are compensated first, in many cases for injuries that those holders have not suffered and will never suffer in the future. By contrast, if junior holders ever are fully remunerated for their losses—including realized losses suffered in the past—they will be forced to hold their notes until future cash flows (*e.g.*, routine principal and interest payments) incrementally pay down their losses, which may not occur until the deal terminates at maturity. The best, therefore, that junior holders can hope for under Dr. Hartzmark’s methodology is the prospect of receiving full compensation for their losses at some unknown date in the future.

62. Dr. Hartzmark also asserts that the “ancillary benefits of price increases . . . take the full benefit of a damages award beyond the cash payments.”<sup>55</sup> According to Dr. Hartzmark, note prices will predictably increase because the principal balance owed to other noteholders would be reduced and the mortgage collateral balance would remain constant.<sup>56</sup> To the extent that Dr. Hartzmark suggests that junior holders will have no preference between an increase in their notes’ value and a cash payment for their losses, Dr. Hartzmark necessarily assumes that

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<sup>55</sup> Hartzmark Rebuttal Report, ¶ 74.

<sup>56</sup> Hartzmark Rebuttal Report, ¶ 53.

the increase in note value is sufficient for junior holders to sell their note for an amount that would put them in the same position as they would have been had they received a cash payment for the losses they suffered. Dr. Hartzmark, however, does not provide any support for that assumption. Multiple factors beyond the principal balances and collateral balance affect note prices, including but not limited to, coupon payments, prepayment risk, expected duration, expectations about interest rates, expectations about the house prices, and other macroeconomic factors.

63. Dr. Hartzmark's own examples illustrate this point. In Exhibit 4 to his Rebuttal Report, Dr. Hartzmark purports to apply his methodology using a hypothetical damages award to demonstrate that every Noteholder would be made better off under his methodology. Hartzmark incorrectly asserts that “[w]hat is shown in Exhibit 4 is that the benefits flow to all tranches and that the use of the defined guidelines of the waterfall result in an objective, non-arbitrary, reasonable and fair outcome based on issues common to all Noteholders.”<sup>57</sup> But Dr. Hartzmark has no way of knowing whether applying his methodology would necessarily increase the value of subordinate notes. For example, consider the IRWHE 2005-1 trust. The senior 1-A tranche is currently priced at \$97.44. The subordinate B-1 tranche is priced at \$100.55, despite having significantly less credit support than the 1-A tranche.<sup>58</sup> The reason for this is likely because the B-1 tranche pays a fixed coupon that is significantly higher than the 1-A tranche. It does not necessarily follow that any sort of a payment under Dr. Hartzmark's methodology would increase the value of the B-1 tranche. Even if it does, Dr. Hartzmark does not know by how much. Dr. Hartzmark thus has no basis for saying that junior holders would be agnostic between receiving damages and a benefit relating to the asserted increase in value of notes that Dr. Hartzmark discussed.

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<sup>57</sup> Hartzmark Rebuttal Report, ¶ 75.

<sup>58</sup> See Exhibit 5 to this report.

64. This places the junior holders at a distinct disadvantage relative to where they would be if they were to file and recover in individual lawsuits against U.S. Bank. If successful in individual lawsuits, junior holders would be compensated *immediately* for their losses. This is not a hypothetical issue, as shown in the Amended Press Report. Ms. Press analyzes how alleged Put Back Damages would flow through the waterfall for HMBT 2004-2, a trust at issue in this litigation. As of January 31, 2017, HMBT 2004-2's Class B tranche has suffered approximately \$2.36 million of realized or implied losses, [REDACTED]

[REDACTED].<sup>59</sup> While I offer no opinion on the waterfall interpretations or calculations presented by Ms. Press, the inescapable conclusion is that [REDACTED]

[REDACTED], depending on the waterfall interpretation and assumed Put Back Damages, and the Class B tranche—[REDACTED]—would receive only between approximately \$5,800 and \$2.4 million.<sup>60</sup> This scenario would not occur if damages were calculated at the individual noteholder level.

65. Junior holders also potentially are worse off under Dr. Hartzmark's model than they would be under a different damages model. In fact, based on my testifying experience in other RMBS trustee class certification cases, I have seen a variety of damages approaches put forth by damages experts, and their damages approaches clearly favor the named plaintiffs at the expense of other putative class members. In this case, Dr. Hartzmark proposes a damages approach that is likely to favor the senior tranche holders at the expense of junior tranche holders, as discussed above. Dr. Hartzmark typically has been retained by plaintiffs holding senior tranches.<sup>61</sup> By contrast, in another case against U.S. Bank as RMBS trustee, plaintiff

<sup>59</sup> Amended Press Report ¶¶ 43-44, Figure 4; Exhibit 4.

<sup>60</sup> Amended Press Report ¶¶ 59-60, Figure 10.

<sup>61</sup> [REDACTED]

[REDACTED] and *Fixed Income Shares: Series M, et al. v. Citibank*

Royal Park, an investor in junior tranches, has retained Mr. Scott Dalrymple as a damages expert.<sup>62</sup> As I explained in my expert report in the *Royal Park* case, Mr. Dalrymple has said that he would consider declines in “the values of the Certificates” as one possible method of measuring damages.<sup>63</sup> Named Plaintiffs here, as senior holders, would be unlikely to recover any damages under that approach—as noted above, named Plaintiffs [REDACTED]

[REDACTED].<sup>64</sup>

66. [REDACTED]

[REDACTED]<sup>65</sup> [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED].

67. Despite the fact that his damages model favors senior holders at the expense of junior holders, Dr. Hartzmark insists that “no Noteholder can be harmed”<sup>66</sup> because “no tranche is harmed or put in a worse position relative to its position prior to the damages award.”<sup>67</sup> That position is absurd. The relevant comparison is not whether a Noteholder is better off than it would be without any damages award at all—virtually any model would leave a class member

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*N.A. et al.* (1:14-cv-09373). Dr. Hartzmark was retained as expert witness in each of these cases. Most of the named plaintiffs in these cases were institutional investors whose holdings were concentrated in senior tranches of the trusts at issue in these cases.

<sup>62</sup> *Royal Park Investments SA/NV v. U.S. Bank National Association*, No. 14-cv-2590 (S.D.N.Y.).

<sup>63</sup> Declaration of Christopher M. James, Ph.D. in Support of U.S. Bank’s Opposition to Motion for Class Certification, *Royal Park Investments SA/NV et al. v. U.S. Bank National Association*, No. 14-cv-2590, March 3, 2017, ¶19.

<sup>64</sup> See Exhibit 4.

<sup>65</sup> [REDACTED]

<sup>66</sup> Hartzmark Rebuttal Report, ¶ 52.

<sup>67</sup> Hartzmark Rebuttal Report, ¶ 73.

better off than it would be without a recovery. Rather, the relevant comparison is whether a Noteholder under Dr. Hartzmark's model is in at least the same position as it would be in an individual action or under a model that actually compensates holders for their economic harm as a result of the alleged breaches.

68. To illustrate the absurdity of Dr. Hartzmark's position, consider the following hypothetical lawsuit. Mr. A loans Mr. B \$100. Mr. B refuses to pay back the loan, so Mr. A sues Mr. B. Ms. C also loans Mr. B \$100. Mr. B pays Ms. C back in full. In that case, Dr. Hartzmark proposes awarding Mr. A only \$50 of his \$100 in damages and awarding Ms. C (who was not injured by Mr. B) \$50 in damages. Dr. Hartzmark justifies his damages model, including giving Ms. C a windfall, by saying that Mr. A is better off relative to no recovery at all. The model Dr. Hartzmark proposes in this case is just as absurd. In effect, Dr. Hartzmark proposes awarding junior holders (Mr. A) only a fraction of the amount that they actually lost, and awarding the senior holders (Ms. C) the rest of the junior holders' damages. Dr. Hartzmark says that is entirely appropriate because junior holders are better off than they would have been without any recovery—"prior to the damages award."<sup>68</sup>

69. Dr. Hartzmark also says that no conflict exists between junior and senior noteholders because "all Noteholders have the same objective of maximizing the value of the trust."<sup>69</sup> Dr. Hartzmark is wrong as an economic matter. In the context of a damages model, each individual investor has an interest in maximizing the benefit it receives. Maximizing the value to the trust, moreover, does not necessarily maximize the value to every individual investor without regard to the method by which any proceeds are allocated.<sup>70</sup>

<sup>68</sup> Hartzmark Rebuttal Report, ¶ 73.

<sup>69</sup> Hartzmark Rebuttal Report, ¶ 53.

<sup>70</sup> Dr. Hartzmark further asserts that no conflict exists because, "[i]f the guidelines of the waterfall are employed to allocate aggregate Put Back and Servicing Damages to individual Class Members, no investor is subjectively favored or advantaged at the expense of others." Hartzmark Rebuttal Report, ¶ 54. That position assumes that there is only one possible set of

70. Dr. Hartzmark further attempts to defend his failure to award cash payments to junior holders by asserting that the most-junior holders should not necessarily receive cash payments because they “would have incurred losses from *non-defective* loans.”<sup>71</sup> According to Dr. Hartzmark, some junior holders suffered such extensive losses on non-defective loans that nothing U.S. Bank should have done “would have avoided these losses.”<sup>72</sup> Dr. Hartzmark offers an analogy to a person drowning in a swimming pool:

To say that the common damages methodology favors the Plaintiffs or other Noteholders is like saying that a five foot tall person who drowns in ten feet of water would have been in a different position had two feet of water been drained away (analogous to the *defective* loans being removed). In either case he drowns. If, however, six feet of water had been removed, the five foot tall person would have recovered (although he would still be wet) as one foot of his body is above the water. My common damages methodology and the use of the waterfall does not offer a windfall (or new life when only two feet of water is drained) or benefit to those most junior Noteholders in the hierarchy who would have incurred losses from *non-defective* loans.<sup>73</sup>

71. Dr. Hartzmark’s response is flawed. Dr. Hartzmark fails to consider that the timing of losses matters, because losses from defective and non-defective loans accrue over time. Dr. Hartzmark improperly considers only the filled water level today (ten feet) and whether removing certain amounts of water (losses from defective loans) would save the drowning person. It may be the case that losses from non-defective loans might eventually fill the pool over five feet and drown a noteholder in a junior tranche. The relevant inquiry, however, is whether the drowning person would have drowned at a later date if, as the water level (losses) increased over time, some of the water (losses from defective loans) was removed. If the answer to that question is yes, then the person was harmed by the failure to remove the water.

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waterfall guidelines to apply. However, as discussed below, the waterfall guidelines require interpretation, and holders prefer different interpretations depending on the tranche in which they hold.

<sup>71</sup> Hartzmark Rebuttal Report, ¶ 55.

<sup>72</sup> Hartzmark Rebuttal Report, ¶ 55.

<sup>73</sup> Hartzmark Rebuttal Report, ¶ 55.

72. Consider a hypothetical junior tranche that in the actual world was wiped out in January 2010 by defective and non-defective loans. Assume that, in the but-for world where defective loans were repurchased, the tranche would have incurred losses on only non-defective loans, and those losses would not have wiped out the tranche until January 2013. Although the tranche eventually is wiped out (by non-defective loans) even in the but-for world, that occurs three years later than in the actual world. And during that time, the junior tranche would have received principal and interest payments. The loss of those payments constitutes economic harm to the junior tranche.

73. In sum, Dr. Hartzmark's methodology simply fills the pool with water today. It doesn't take into account the different outcomes that would occur depending on the timing and speed at which the water would have accumulated in the but-for world. In doing so, he necessarily creates conflicts between junior Noteholders who are excluded from all recovery and more senior Noteholders such as Plaintiffs.

**b. Junior and senior tranches will conflict over the waterfall rules allocating damages payments.**

74. In allocating damages payments to individual investors, Dr. Hartzmark's damages methodology assumes that there are strict, objective rules for distributing Put Back and Servicing Damages. Dr. Hartzmark conflates the distribution of routine payments from mortgage loans, which are governed by the waterfall rules, with distribution of a lump-sum damages award from the indenture trustee, which, I understand, is not contemplated by the indentures' waterfall rules. In other words, the waterfall rules prescribed by the indentures are intended to apply to routine payments from mortgage-loan distributions only and, therefore, there are no waterfall rules that address the distribution of the lump-sum damages awarded under Dr. Hartzmark's model.

75. Dr. Hartzmark therefore will have to make a choice, at least, about payment mechanics (*e.g.*, the sequence and order of payments), even if, after making those choices, he uses the existing senior-subordinate tranche structure in the Trusts to allocate each tranche's

damages payment. Whatever decision Dr. Hartzmark makes will benefit certain tranche holders at the expense of others. Accordingly, holders in different tranches will have conflicting viewpoints over how to distribute the damages payment, each advocating for a methodology that maximizes the amount the holder receives. For example, junior tranche holders will favor a method of allocating damages payments that pays down actual realized losses absorbed by junior tranches instead of allocating damages payments to principal payments based on seniority and the outstanding principal balances of the active tranches in the Trust. Senior tranche holders will favor an allocation method that cashes out or pays down their holdings before, or at the expense of, directing cash flows to more junior tranches. Junior and senior tranche holders also will conflict over whether a distribution is characterized as a “subsequent recovery” or “prepayment.” That characterization can profoundly affect which investors get paid or otherwise financially benefit, and the amount, as a result of waterfall distributions. Thus, contrary to Dr. Hartzmark’s assertion that waterfall rules are “rigid guidelines” that “cannot be influenced” and “that there cannot be any meaningful conflicts between different tranches,”<sup>74</sup> the waterfall rules require interpretation, creating conflicts among class members.<sup>75</sup>

76. These conflicts are not just hypothetical. Even if the waterfall rules in the indentures apply to the damages model proposed in this case, as described in the Amended Press Report, Class A-1 (most senior) and Class B (most junior) holders in the HMBT 2004-2 Trust stand to receive substantially different shares of recovery on trust losses depending on the

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<sup>74</sup> Amended Hartmark Report, ¶¶ 70, 73.

<sup>75</sup> Although he claims the waterfall rules are rigid and not subject to interpretation, Dr. Hartzmark in fact admits that the waterfall rules require interpretation—he describes his chosen Intex Solutions, Inc. model as “generally and reliably interpret[ing] the rules” of the waterfall. If the waterfall rules were “rigid guidelines” unsusceptible to influence and conflict, then there is no reason why Dr. Hartzmark’s preferred model would need to “generally and reliably interpret[]” those rules. Hartzmark Rebuttal Report, ¶ 64.

method of payment selected by Dr. Hartzmark in interpreting the waterfall rules.<sup>76</sup> HMBT 2004-2's indenture does not clearly prescribe how these recoveries would flow through the waterfall, and there are three possible interpretations given the ambiguity.<sup>77</sup> Under one method of payment—which Class B holders would prefer—a substantial portion of a \$24 million hypothetical damages award would pay down over \$2.3 million in realized losses previously absorbed by the tranche. Senior tranche holders would receive their pro rata share of approximately \$3.1 million in principal distributions. The remaining \$18.6 million would flow through to equity holders who, because they are not current holders of Notes, are not part of Plaintiffs' proposed Class.<sup>78</sup>

77. Under another payment method—which Class A-1 holders would prefer—payments would be distributed according to the waterfall rules as modeled by Intex Solutions, Inc. Unlike the first payment method, no portion of the \$24 million award would go to pay down the realized losses absorbed by the Class B tranches.<sup>79</sup> Instead, each tranche would receive its pro rata share of the first \$5.5 million flowing through the waterfall, with the remaining \$18.6 million, again, going to equity holders.<sup>80</sup> The last payment method is similar—each tranche would receive its pro rata share of approximately \$5.5 million and no portion of the \$24 million award would pay down the Class B tranches' realized losses.<sup>81</sup>

78. The benefits to the most senior tranche holders [REDACTED]

[REDACTED] and the most junior holders diverge enormously under these payment methods. The Class A-1 holders will favor the second and third methods, pursuant to

<sup>76</sup> Amended Press Report ¶¶ 59-60, Figure 10.

<sup>77</sup> Amended Press Report ¶¶ 38-48.

<sup>78</sup> Amended Press Report ¶¶ 51-52, Figure 6.

<sup>79</sup> Amended Press Report ¶ 57, Figure 9.

<sup>80</sup> Amended Press Report ¶ 57, Figure 9.

<sup>81</sup> Amended Press Report ¶ 55, Figure 8.

which they would receive over \$1.7 million in cash *more* than under the first payment method. Indeed, even the A-2 and mezzanine tranches would get hundreds of thousands of dollars more under that method. The Class B holders would advocate for the first payment method, recognizing that if Dr. Hartzmark selected the second or third method, they would receive at least \$2.2 million *less* than under the first allocation method.

79. Article 77 proceedings<sup>82</sup> in New York State Court involving several RMBS trustees (including U.S. Bank) and institutional investors (including several of the named Plaintiffs here) further illustrate that, contrary to Dr. Hartzmark's position, investors have conflicting views on payment allocation methods and interpretation of trust waterfall provisions. In these proceedings, investors have disputed, among other issues, (1) whether the trusts' governing agreements address the distribution of funds to compensate for breaches of representations and warranties and servicing guidelines, the very same issues as in this case, (2) whether repurchase recoveries should be treated as subsequent recoveries or prepayments under applicable waterfall rules, and (3) the appropriate order of payment under the waterfall rules.<sup>83</sup>

80. One example is the Countrywide/Bank of America Article 77 proceeding (which Dr. Hartzmark is aware of, given that he reviewed the petition filed in that proceeding by Bank of New York Mellon, as RMBS trustee<sup>84</sup>). It is my understanding that, in that proceeding, junior and senior tranche holders in various trusts disputed how repurchase settlement payments should be distributed through those trusts' waterfalls. Senior tranche holders, including certain of the

<sup>82</sup> It is my understanding that, in an Article 77 proceeding, an RMBS trustee may seek judicial instruction on what action it should take on behalf of trust investors, and that individual investors may file objections to ensure that their voices are heard.

<sup>83</sup> Objection of W&L Investments, Inc., *In re the Application of U.S. Bank Nat'l Ass'n, et al*, Index No. 652382/2014 (N.Y. Sup. Ct. Oct. 31, 2014), pp. 2-3 (disputing whether it was appropriate to categorize repurchase settlement proceeds as subsequent recoveries).

<sup>84</sup> See Amended Hartzmark Report, Appendix B; Hartzmark Rebuttal Report, Appendix B; Verified Petition, *In re Bank of New York Mellon*, Index No. 150973/2016 (Feb. 5, 2016), NYSCEF Doc. No. 1.

named Plaintiffs in this case, argued for an interpretation of the waterfall rules as modeled by Intex Solutions, Inc.—the same interpretation Dr. Hartzmark proposes to adopt here.<sup>85</sup> The Intex model would have given the senior holders a greater share of the settlement<sup>86</sup> relative to allocation methods proposed by junior holders.<sup>87</sup>

81. The senior and junior holders in the Countrywide/Bank of America proceeding also conflicted regarding whether to characterize projected (or latent) losses as subsequent recoveries or prepayments. The settlement payment was based on a combination of historical and projected future net losses, as Dr. Hartzmark recognizes.<sup>88</sup> Even though a portion of the settlement proceeds consisted of projected future net losses, the entirety of the settlement payment was treated as a subsequent recovery.<sup>89</sup> Therefore, the latent losses that Dr. Hartzmark says can be nothing other than “prepayments”<sup>90</sup> have been treated as “subsequent recoveries” elsewhere, further demonstrating that the waterfall rules are not mechanical rules but are subject to interpretation.

82. [REDACTED]

[REDACTED] .<sup>91</sup> [REDACTED]

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<sup>85</sup> Hartzmark Rebuttal Report, ¶¶ 64-66; *see also* Amended Hartzmark Report, ¶ 67 fn. 42.

<sup>86</sup> See, e.g., Brief of Certain Institutional Investors Concerning the Remaining Disputed Trusts, *In re Bank of New York Mellon*, Index No. 150973/2016, NYSCEF Doc. No. 96, pp. 1, 18.

<sup>87</sup> The court in the Article 77 proceeding ultimately ruled against adopting the Intex method proposed by the senior holders. *See Decision & Order, In re Bank of New York Mellon*, Index No. 150973/2016, NYSCEF Doc. No. 193, pp. 12-14.

<sup>88</sup> *See* Amended Hartzmark Report, ¶ 37 fn. 29.

<sup>89</sup> *See* Verified Petition, *In re Bank of New York Mellon*, Index No. 150973/2016, NYSCEF Doc. No. 1, Ex. B. ¶ 15.

<sup>90</sup> Hartzmark Rebuttal Report, ¶ 46 (asserting it “cannot be ‘argued’ about or altered that Defective Latent Losses that currently lie dormant in the collateral pools and are recovered in this litigation reflect *prepayments*”).

<sup>91</sup> Amended Hartzmark Report, ¶¶ 70, 73.

[REDACTED]  
[REDACTED]  
[REDACTED] „92

**2. In any event, Dr. Hartzmark’s model cannot measure TIA damages, and his price-inflation approach is flawed for numerous reasons.**

83. As discussed above, even if New York’s automatic-assignment rule applies to all current holders’ notes, Dr. Hartzmark’s model cannot measure TIA damages. I understand from counsel that § 13-107 does not automatically transfer a seller’s TIA claims. I further understand that, because under the TIA noteholders can recover only “actual damages,” and because current holders have only their own (and not prior holders’) TIA claims, class members can recover only those realized out-of-pocket losses that they themselves have incurred. Dr. Hartzmark’s model fails to measure current holder’s “actual damages” for purposes of the TIA. Dr. Hartzmark’s model instead measures realized losses from the inception of the Trusts.

84. Responding to my original opinion that he fails to measure out-of-pocket losses, Dr. Hartzmark in his Rebuttal Report (but not in his Amended Report) states that an out-of-pocket damages methodology is “flawed” and that “there is no need” to measure those damages in this case.<sup>93</sup> However, in a few paragraphs, Dr. Hartzmark describes a purported “out-of-pocket method” “should the finder of fact determine that benefit-of-the-bargain damages are more appropriately based on out-of-pocket losses.”<sup>94</sup> According to Dr. Hartzmark, “like in securities matters,” investors who “expect[ed] that” U.S. Bank would “act to staunch projected losses on defective loans by forcing repurchase” paid more for their RMBS notes based on that expectation.<sup>95</sup> Dr. Hartzmark asserts that the “price inflation” resulting from that expectation

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92 [REDACTED]

<sup>93</sup> Hartzmark Rebuttal Report, ¶¶ 8, 12.

<sup>94</sup> Hartzmark Rebuttal Report, ¶13 & fn. 23.

<sup>95</sup> Hartzmark Rebuttal Report, ¶¶ 10–11, 13.

constitutes “out-of-pocket” losses, even if investors made money.<sup>96</sup> Importantly, Dr. Hartzmark offers no opinion regarding how he proposes to quantify the “price inflation” for any investor, nor is there a way to do so without highly individualized inquiry on a transaction-by-transaction basis.

85. As an initial matter, Dr. Hartzmark is wrong that, because the class includes only “current Noteholders” and therefore there “is no ‘sale price,’”<sup>97</sup> an out-of-pocket model is “flawed.”<sup>98</sup> In fact, Dr. Hartzmark in the same paragraph recognizes that current holders *can* suffer out-of-pocket losses in the form of “certain realized collateral losses that have flowed to certain tranches.”<sup>99</sup> And both Put Back and Servicing Damages would manifest as “realized losses” for current holders.<sup>100</sup>

86. In any event, Dr. Hartzmark’s “price inflation” approach is conceptually flawed from an economic perspective.<sup>101</sup> First, the approach purports to import a damages approach for securities class actions under Rule 10b-5 of the Securities Exchange Act of 1934, even though such cases differ from this one in many key respects. In particular, the RMBS market was not efficient and Plaintiffs have identified no corrective disclosures. As a result, Dr. Hartzmark’s price-inflation approach would require individualized inquiry into the subjective “expectations” of each investor and complex analysis of causation and damages.<sup>102</sup> Second, Dr. Hartzmark’s

<sup>96</sup> Hartzmark Rebuttal Report, ¶¶ 10-11.

<sup>97</sup> Hartzmark Rebuttal Report, ¶ 8; *see also* Hartzmark Rebuttal Report, ¶ 11, fn. 21 (“[A]n investor might still suffer out-of-pocket losses from realized losses due to defective loans that occur after the purchase.”).

<sup>98</sup> Hartzmark Rebuttal Report, ¶ 8. Although Dr. Hartzmark’s Put Back and Servicing Damages manifest as realized losses, his model does not measure out-of-pocket losses for purposes of the TIA. Realized losses for purposes of measuring TIA out-of-pocket losses would be limited to those realized losses incurred while the current holder held the note. Dr. Hartzmark, by contrast, measures realized losses from the Trust’s inception.

<sup>99</sup> Amended Hartzmark Report, ¶¶ 30, 54.

<sup>100</sup> I take no position on Dr. Hartzmark’s legal conclusions regarding what is most important for the purposes of class certification or the TIA.

<sup>101</sup> Hartzmark Rebuttal Report, ¶¶ 10-11, 13.

approach creates conflict among class members over whether to apply the benefit-of-the-bargain model or the price-inflation approach.

**a. This case differs in key respects from securities cases, creating individualized issues of causation and damages.**

87. Dr. Hartzmark's price-inflation approach purports to import a damages approach used in securities class actions under Rule 10b-5 of the Securities Exchange Act of 1934. I have been qualified as an expert on issues of loss causation and damages in multiple securities class actions. Those types of cases differ from this one in many key respects, including with respect to the existence of an efficient market and identifiable corrective disclosures.

88. The RMBS market was not efficient. Where there is an efficient market, there is a rebuttable presumption that all investors relied on the market price because a security that trades in an efficient market rapidly incorporates publicly available information into the security price. The market thus makes it unnecessary to consider, on an individualized basis, whether particular investors received or relied upon the information allegedly affecting the security price.

89. If the market is not efficient, by contrast, there is no presumption that prices reflect publicly available information. Prices instead reflect individual preferences and expectations. For example, factors such as the transacting parties' particular investment strategies, motivations, opinions, financial condition, and reasons for buying/selling may influence the price of each transaction. For securities traded on an inefficient market, therefore, it is my understanding that courts have refused to certify class actions because individual issues of reliance and damages arising from individual investor expectations would overwhelm the common issues.

90. Dr. Hartzmark has made no attempt to establish that the market for the notes at issue was efficient, and the available evidence shows that it was far from efficient during the relevant times.

91. The bond market in general and the RMBS market in particular became severely illiquid—meaning that relatively few (if any) participants were willing to buy or sell securities at

any particular time, so securities could not easily be purchased or sold—beginning in late 2007 and continuing thereafter.<sup>102</sup> The illiquidity of the RMBS market was particularly severe. Unlike the market for many common stocks, RMBS did not trade on an exchange, and prices typically were negotiated for each transaction based on soliciting bids from a handful of buyers that may have had different views on what the notes were worth. Following these events in 2007 and 2008, such bids often became difficult to obtain and varied widely in price. These conditions persisted throughout 2009 and continued in many respects in 2010 and 2011.<sup>103</sup>

92. All of these traits are inconsistent with an efficient market.<sup>104</sup> In fact, the SEC issued clarifications with respect to fair-value accounting in September 2008, stating that “during this period of market uncertainty” when “relevant market data may be unavailable,” fair-value measurement questions were “particularly challenging” and “most urgent.”<sup>105</sup> [REDACTED]

[REDACTED] 106

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<sup>102</sup> As shown in Exhibit 6, according to an academic study, the market illiquidity measure for the U.S. corporate bond market in general increased dramatically from January 2007 to September 2008, indicating that overall liquidity decreased significantly. The illiquidity measure increased from -1.4 in January 2007 to -0.1 by August 2007, spiking to 1.6 in March of 2008 and then jumping again in September 2008 from 1.0 to 4.8, indicating a decrease in liquidity in the overall bond market during that time period. A higher value of the market illiquidity measure corresponds to less liquidity in the bond market. Jens Dick-Nielsen, Peter Feldhütter, and David Lando, “Corporate Bond Liquidity Before and After the Onset of the Subprime Crisis,” *Journal of Financial Economics*, Vol. 103, 2012, pp. 471-92. Data available at: [http://www.feldhutter.com/USCorporateBondMarketLiquidity\\_updated.txt](http://www.feldhutter.com/USCorporateBondMarketLiquidity_updated.txt).

<sup>103</sup> Merrill, Craig B., et. al (2012), “Why did financial institutions sell RMBS at fire sale prices during the financial crisis?,” Financial Institutions Center, Wharton School, Univ. of Pennsylvania, pp. 19-20.

<sup>104</sup> An efficient market rapidly incorporates public information, such that a security’s price reflects market consensus regarding the present value of expected future cash flows. See, e.g., Brealey, Myers, and Allen, *Principles of Corporate Finance*, 8th ed., pp. 76, 337 (New York: McGraw-Hill/Irwin, 2006); and Bodie, Kane, and Marcus, *Essentials of Investments*, 6th ed., at pp. 244, 247-48 (New York: McGraw-Hill/Irwin, 2007).

<sup>105</sup> “SEC Office of the Chief Accountant and FASB Staff Clarifications on Fair Value Accounting,” U.S. Securities and Exchange Commission, September 30, 2008.

106 [REDACTED]  
[REDACTED]  
[REDACTED]

93. Because the market was not efficient, Dr. Hartzmark's price-inflation approach cannot be applied on a class-wide basis. By Dr. Hartzmark's own account, the price that a particular investor paid in a particular transaction was affected by that investor's "expectations" regarding whether and when U.S. Bank would force the repurchase of certain loans underlying a particular security.<sup>107</sup> That must be determined on a transaction-by-transaction basis.

94. Neither Dr. Hartzmark nor Plaintiffs have shown that investors ascribed the same value to their expectation of trustee repurchase—or that they even ascribed *any value* to, or had *any expectation* of, trustee repurchase. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] 108 [REDACTED]

[REDACTED]

[REDACTED] 109 [REDACTED]

[REDACTED]

[REDACTED].<sup>110</sup> [REDACTED]

[REDACTED]

[REDACTED].<sup>111</sup> [REDACTED]

95. Furthermore, one of Plaintiffs' own in-house experts on non-agency RMBS authored a book chapter entitled "Investing in Non-Agency Mortgage Backed Securities" as the

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<sup>107</sup> Hartzmark Rebuttal Report, ¶¶ 10-11, 13.

<sup>108</sup> [REDACTED]

<sup>109</sup> [REDACTED]

<sup>110</sup> [REDACTED]

<sup>111</sup> [REDACTED]

mortgage crisis was deepening in 2008.<sup>112</sup> Although the chapter describes “the investment process” for RMBS in detail, nowhere does it indicate that a review of the trustee or the trustee’s performance was a relevant consideration in deciding to invest in RMBS. By contrast, the chapter instructs potential investors to review originators and servicers as part of making investment decisions.<sup>113</sup>

96. All of this underscores the subjective and individualized nature of determining what Dr. Hartzmark calls the “true price” or “inflated value” in his price-inflation approach.<sup>114</sup>

97. Plaintiffs have not identified any corrective disclosures. A second fundamental difference between this matter and a typical Rule 10b-5 securities class action is that Plaintiffs do not specify a set of affirmative misrepresentations or omissions by U.S. Bank or assert that disclosures were made to “correct” the alleged misrepresentations. That difference means that it will be impossible here to determine on a class-wide basis the amount of loss each investor suffered.

98. In a typical securities class action, one or more specific misrepresentations are alleged by the plaintiffs. These misrepresentations, to the extent that they have any impact on the price of the security, affect all investors who purchase and hold the security over a period in which at least one partial or complete corrective disclosure of the alleged misrepresentations is first made known to the market. Generally speaking, the plaintiffs must establish a causal link (“loss causation”) between the alleged misrepresentations and economic loss to recover economic damages.

99. Here, there is an indeterminate alleged series of hundreds or thousands of breaches of contract and violations of the TIA that would have happened, to the extent that they happened at all, on different (and as-yet undetermined or undisclosed) dates. Additionally, there

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<sup>112</sup> See US BANK-FED-BlackRock-PLTFS 02388685-706.

<sup>113</sup> US BANK-FED-BlackRock-PLTFS 02388694.

<sup>114</sup> Hartzmark Rebuttal Report, ¶¶ 10-11.

is no alleged misrepresentation made by U.S. Bank that would have impacted [REDACTED]  
[REDACTED]. Dr. Hartzmark proposes no mechanism to determine what the misrepresentation was or when it occurred.

100. Equally significant, Dr. Hartzmark identifies no corrective disclosure or other observable event that can be analyzed to determine the extent to which, if at all, class members were damaged by U.S. Bank's alleged conduct.

101. Additionally, Dr. Hartzmark has not attempted to explain how the many factors unrelated to any conduct of U.S. Bank that affected the value of the notes and the prices at which they traded (*e.g.*, macroeconomic factors, the financial crisis, liquidity in the market, interest rates of alternative investments available for sale, and motivating factors for particular sales) could be determined on any basis other than assessing the circumstances of each investor and each transaction. These issues are not present in a typical securities class action.

102. Thus, determining causation and damages in connection with Dr. Hartzmark's entirely unsubstantiated price-inflation approach would be an extraordinarily complicated, highly speculative effort. It would necessarily be based on assumptions stacked upon assumptions about individual investors' beliefs regarding the hypothetical acts of dozens of different third-party originators and servicers in response to U.S. Bank's efforts to enforce alleged breaches of representations and warranties or alleged servicing failures, magnified manifold in complexity across all investors in all notes over the class period. For these reasons, any comparison of causation and damages in this case to the same issues in a securities fraud class action would be inappropriate.

**b. Dr. Hartzmark's two damages approaches would result in additional conflicts among class members.**

103. Dr. Hartzmark has offered no explanation for how his price-inflation approach would work with the waterfall methodology described in the Hartzmark Amended Report. Having two potential approaches in one case—one of which purports to award out-of-pocket

losses and one of which purports to award benefit-of-the-bargain damages—would create inevitable class conflicts.

104. Each investor presumably would endorse the methodology that maximized its recovery. Although it is not clear which methodology would result in greater recoveries for which investors, there is no systematic reason that one methodology would always result in a more favorable outcome for all investors.

105. For example, [REDACTED]

[REDACTED]. The IDC price as of July 13, 2017 was \$96.80, [REDACTED] For PIMCO to have suffered any out-of-pocket loss (as Dr. Hartzmark defines that term), PIMCO would have to establish (1) when it purchased, it assumed that U.S. Bank would force repurchase of defective loans at some point after [REDACTED]; (2) it paid [REDACTED] based on that assumption, and it would have paid less had it known that U.S. Bank would not force repurchases; and (3) the IDC price of \$96.80 was based on an assumption that U.S. Bank would not act. If PIMCO could somehow establish this implausible chain of events, under Dr. Hartzmark’s new approach, PIMCO would be entitled to out-of-pocket damages equal to the “inflation” at purchase. Alternatively, Dr. Hartzmark’s original methodology may conceivably grant some prepayment of remaining principal at par (\$100.00) to PIMCO.<sup>115</sup>

106. It is not clear which approach would result in a greater recovery, and there is no way of knowing ahead of time. For example, there is no way to know how much more (if any) PIMCO paid based on an assumption about whether the trustee would pursue repurchases. Such a highly individualized exercise would need to be undertaken for every single transaction of every single note at issue to determine which of Dr. Hartzmark’s two, independent damages approaches would yield a larger recovery.

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<sup>115</sup> Hartzmark Rebuttal Report, ¶ 52.

107. All of this reinforces that Dr. Hartzmark's damages approaches serve to give Plaintiffs a windfall, either through a model that calculates Trust-level losses and distributes to holders through the Trust waterfalls today or by calculating "price inflation" on notes that have increased in value. The risk of developing damages models that award damages to holders who have [REDACTED] [REDACTED]  
[REDACTED]  
[REDACTED] „<sup>116</sup> just as the late-purchasing Plaintiffs did in this case.

108. One more point is worth noting. Dr. Hartzmark does not dispute my finding that [REDACTED]  
[REDACTED]  
[REDACTED]

#### **VIII. OPINION 2: DR. HARTZMARK'S METHODOLOGY DOES NOT ADDRESS THE RELEVANT BUT-FOR WORLD, AND THE PROPER BUT-FOR WORLD CREATES INDIVIDUALIZED ISSUES AND CONFLICTS AMONG THE CLASS**

109. The basic purpose of a benefit-of-the-bargain damages analysis is to estimate the economic difference between what actually happened and what would have happened if the defendant had not breached its duties. The *Litigation Services Handbook* states that "most damages analyses require the use of assumptions and projections about what would have happened if certain behavior of the defendant had been different."<sup>117</sup> Dr. Hartzmark, however, makes assumptions about what would have happened—about the "but-for" world—that are inconsistent with Plaintiffs' allegations as pleaded in their Complaint. And though he contends that "what would have happened (and when) and what could have happened (and when) is not relevant for the construction of the appropriate but-for world," that is inconsistent with statements elsewhere in his report and with sound economics. Moreover, in the proper but-for

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<sup>116</sup> [REDACTED]

<sup>117</sup> Roman L. Weil, *Litigation Services Handbook*, Fourth Edition, Chapter 1, p. 20.

world, class members would conflict or have individualized issues regarding the repurchase process.

**A. Dr. Hartzmark's Methodology Is Inconsistent With The Relevant But-For World.**

110. Below, I describe the relevant “but-for” world that is actually tied to Plaintiffs’ liability case. A properly constructed damages analysis relies on a “but-for” world that is related to Plaintiffs’ allegations and the state of the world that would have existed had U.S. Bank behaved as Plaintiffs contend U.S. Bank should have. This “but-for” world looks very different from what Dr. Hartzmark assumes, and has very different implications for how damages must be assessed and calculated as well as for the individualized issues relating to such assessments and calculations.

**1. Dr. Hartzmark’s methodology is inconsistent with the relevant but-for world for Put Back Damages.**

111. Dr. Hartzmark states that he assumes the following scenario (footnotes omitted):

For purposes of describing the methodology that will be used to calculate Put Back Damages, consistent with the Plaintiffs’ theory of liability, I have assumed that under the Governing Agreements and the TIA, the Trustee had the duties set forth in the Complaint and that the Trustee failed to act consistently with these duties. Among others, these duties would have required the Trustee to cause the removal of defective mortgage loans from the Covered Trusts’ collateral pools... In other words, had the Trustee fulfilled its repurchase right obligations against the sellers, the loan pools in the Covered Trusts would not have included, nor currently include defective mortgage loans. Instead, the collateral pools would have held and would currently hold mortgage loans of the same credit quality and characteristics as those the Plaintiffs bargained for. Quite simply, but-for the alleged violations, Class Members would own Notes that would have supporting collateral pools which would have held and would currently hold no defective mortgage loans.<sup>118</sup>

112. Dr. Hartzmark then would calculate the realized and expected losses associated with allegedly defective loans for each Trust, and force those losses through the waterfall today.

113. Dr. Hartzmark’s assumptions are inconsistent with Plaintiffs’ allegations.

Plaintiffs contend that U.S. Bank “discovered significant breaches of representations and

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<sup>118</sup> Amended Hartzmark Report, ¶¶ 21-22.

warranties in each of the Trusts, but failed to act as obligated under the Governing Agreements and the TIA.”<sup>119</sup> Plaintiffs allege that U.S. Bank “fail[ed] to enforce the sellers’ obligation to repurchase, substitute, or cure [the] defective mortgage loans.”<sup>120</sup> It is my understanding that Plaintiffs contend that U.S. Bank should have demanded that the repurchasing party (the seller, sponsor, or originator as defined in the Governing Agreements) repurchase allegedly defective loans and commenced repurchase litigation if the repurchasing party refused to do so. Indeed, in several places in the operative Complaint, the named Plaintiffs describe putback initiatives in which institutional investors directed U.S. Bank to investigate and enforce putback rights in connection with allegedly defective mortgage loans.<sup>121</sup> Plaintiffs allege that it took years before U.S. Bank was able to petition a court for approval of a settlement with the obligated parties,<sup>122</sup> and it is my understanding from counsel that those settlements did not fully compensate investors for all realized and latent losses in the trusts allegedly caused by the defective loans. Plaintiffs, moreover, allege that U.S. Bank initiated repurchase litigation over defective loans in other trusts, consistent with the multi-step repurchase process described in the Complaint.

114. Dr. Hartzmark’s methodology ignores the repurchase process Plaintiffs assert that U.S. Bank should have pursued and thus the relevant “but-for” world and the many individualized factors and uncertainties that come with it. These include whether the parties with the obligation to repurchase loans would have, or could have depending on their financial position, repurchased loans at a given time, whether U.S. Bank was directed and indemnified to pursue repurchase litigation, when such repurchase litigation would have taken place, the outcome and costs of any litigation, when proceeds of any repurchase or litigation would have been distributed through the waterfall, and the possibility of substitution.

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<sup>119</sup> Plaintiffs’ Renewed Class Certification Motion, p. 8.

<sup>120</sup> Complaint, ¶ 167.

<sup>121</sup> Complaint, ¶ 12.

<sup>122</sup> Complaint, ¶ 12.

115. *Financial condition of repurchasing party.* Dr. Hartzmark ignores that all allegedly defective loans would not necessarily have been repurchased by the repurchasing party for the particular Trust. Dr. Hartzmark ignores that the repurchasing party may not have been able to pay the contractually specified repurchase amount for each of these loans. In the properly constructed “but-for” world, the repurchasing party might have insufficient resources or liquidity to repurchase the loans (or to pay any settlement or judgment that U.S. Bank might have obtained in repurchase litigation). The Prospectus Supplements warn about this possibility. For example, the Prospectus Supplement for GPHE 2004-2 states at p. 38 that “no assurance can be given that sellers will carry out their respective repurchase or substitution obligations with respect to loans.” Additionally, several of the entities obligated to repurchase loans in the 25 Trusts became insolvent during the period that Plaintiffs allege U.S. Bank should have demanded repurchase of allegedly non-conforming loans. For example, HomeBanc Corp., the sponsor or seller of six Trusts at issue, declared bankruptcy in August 2007,<sup>123</sup> and Thornburg Mortgage, the sponsor of three Trusts at issue, declared bankruptcy in April 2009.<sup>124</sup> I understand from counsel that HomeBanc and Thornburg were the repurchase parties for the Trusts discussed above. Dr. Hartzmark’s model fails to take into account the possibility that, because of the financial condition of the repurchasing party, certain allegedly defective loans would not have been repurchased, or the Trust would have received far less than the contractual repurchase price, in the “but-for” world.

116. *Litigation and Potential Different Outcomes.* Dr. Hartzmark’s model ignores that all allegedly defective loans would not have been repurchased on demand. His model does

<sup>123</sup> HomeBanc Corp. Press Release, “Homebanc Corp. Files for Chapter 11 Bankruptcy,” August 10, 2007, <http://www.prnewswire.com/news-releases/homebanc-corp-files-for-chapter-11-bankruptcy-58021337.html>.

<sup>124</sup> “Thornburg Mortgage Plans Bankruptcy Liquidation,” *The New York Times*, April 1, 2009, <https://dealbook.nytimes.com/2009/04/01/thornburg-mortgage-plans-bankruptcy-liquidation/>, accessed February 1, 2017.

not account for the possibility that the repurchasing party would have refused to repurchase the loan. Data on repurchases by sponsors from 2009 to 2016 indicate that these entities' repurchase rates were very low. For example, DLJ Mortgage Capital was the sponsor and seller of HEMT 2006-2. According to its ABS-15G filings, the repurchase rate for trusts in which DLJ was a sponsor never exceeded 1.7% of the total repurchase demand in any reporting period.<sup>125</sup> This indicates that repurchase parties would have only rarely agreed to U.S. Bank's initial demand to repurchase a loan, and that, according to Plaintiffs, U.S. Bank in most instances would have had to pursue repurchase litigation.

117. Dr. Hartzmark's methodology also ignores the impact of the varying potential outcomes of any repurchase litigation. If repurchase litigation had been brought, that litigation would have taken time—potentially years—to resolve, and it is uncertain whether it would have resolved in favor of the Trusts. For example, Plaintiffs identify 15 cases in which they contend U.S. Bank initiated repurchase litigation.<sup>126</sup> It is notable that, as of today, none of these cases has resulted in a judgment or settlement equivalent to the full repurchase price for all of the allegedly defective loans.<sup>127</sup> Further, even assuming a judgment is entered or a settlement is reached, it is far from certain that the resolution would result in the full amount of the repurchase demand. Accordingly, there are a number of potential factors and scenarios in the “but-for” world that would affect the amount investors might receive and when they might receive it.

118. *Timing of Repurchase Proceeds.* Dr. Hartzmark's methodology ignores that all allegedly defective loans would not have been repurchased at the same time. In the “but-for” world, repurchases would have occurred (if they occurred at all), at various times after U.S. Bank demanded that a party repurchase allegedly defective loans. Dr. Hartzmark's proposal “to

<sup>125</sup> See Exhibit 7.

<sup>126</sup> Complaint, Exhibit 12.

<sup>127</sup> See Exhibit 8, which summarizes the current status of ongoing repurchase actions instituted by U.S. Bank as trustee on behalf of holders of MBS certificates and notes.

identify the proportion of defective mortgage loans” based on statistical sampling and a loan re-underwriting exercise (to be performed by other experts retained by Plaintiffs)<sup>128</sup> cannot possibly account for the different timing of repurchases. Even if statistical sampling and re-underwriting was a permissible way to avoid loan-by-loan analysis as to *whether* a breach occurred, it could not conceivably estimate the timing of breaches for each loan. Accordingly, Dr. Hartzmark offers no methodology to determine when U.S. Bank should have made repurchase demands or initiated repurchase litigation and when those actions would have resulted in recovery for the Trust, if at all. The timing of repurchase recovery matters because, as discussed below, the cash flow to holders in different tranches would have varied depending on the status of the loan at the time of repurchase, and the collateral balance of the Trust, among other waterfall issues, at the time the proceeds were recovered.

119. To the extent Plaintiffs seek to recover damages resulting from U.S. Bank’s failure to provide notice to noteholders of defaults, Dr. Hartzmark also ignores the varying and conflicting interests noteholders would have had, in response to such notice, as to whether and how U.S. Bank should have pursued enforcement action.

120. Furthermore, the timing of when the alleged representation-and-warranty breaches occurred, when U.S. Bank discovered those breaches, and when U.S. Bank should have enforced repurchase obligations relates to which holders were injured, not just damages, and therefore it is not “premature” to consider these issues now.<sup>129</sup> It is essential to consider when breaches by U.S. Bank occurred to begin assessing their economic effects, as well as which investors might be able to claim damages as a result of such breaches. For example, generally, realized losses resulting from a breach would be allocated only to the most junior tranche that still had a principal balance in the particular Trust at the time of the breach. If such realized

<sup>128</sup> Amended Hartzmark Report, ¶¶ 44-45.

<sup>129</sup> Hartzmark Rebuttal Report, ¶¶ 3, 20, 22-23, 25, 29-30; Hartzmark Rebuttal Report § V.B, V.C., V.D.

losses exceed the remaining principal balance of that most-junior tranche, the balance would be allocated to the next-most junior tranche and so on until all realized losses are allocated. However, realized losses resulting from an alleged breach by the trustee would not impact the most junior tranches if those tranches' principal balances already were at zero because of earlier loan repayments, defaults, expenses, liquidations, or missed payments attributable to causes other than the trustee's breach.

121. In sum, Dr. Hartzmark's methodology ignores the individualized issues and uncertainties associated with the repurchase process and instead treats U.S. Bank as a guarantor with the obligation to reimburse the Trusts for all losses from their inception associated with allegedly defective loans. While this simplifies Dr. Hartzmark's calculations, it also renders his damages opinions irrelevant. Dr. Hartzmark's proposed calculations do not even attempt to place class members in the situation they would have been in had U.S. Bank acted as Plaintiffs contend it should have acted.

**2. Dr. Hartzmark's Servicing Damages methodology is also inconsistent with the but-for world.**

122. Plaintiffs make various allegations regarding servicing, such as that the servicers for the 25 Trusts violated "prudent servicing obligations," "foreclosure obligations," "modifications obligations," and made "improper servicing advances."<sup>130</sup> As described above, Dr. Hartzmark asserts that he can calculate servicing damages based on the costs of servicing the loan during the allegedly excessive time that it took the servicer to foreclose on a delinquent loan.

123. Dr. Hartzmark's approach to servicing damages is fundamentally flawed because it ignores the appropriate "but-for" world and treats U.S. Bank as a guarantor of servicing performance. Plaintiffs claim that U.S. Bank was required, after learning of a servicer's purported breach, to give notice to the appropriate servicer to cure such breach. If the servicer

<sup>130</sup> Complaint, ¶ 143.

did not cure the breach, Plaintiffs allege that the breach would become a Servicer or Master Servicer Event of Default, and if “a responsible officer of U.S. Bank has received written notice or . . . has actual knowledge” of the Event of Default, U.S. Bank was required to send written notice to all noteholders.<sup>131</sup> Other than sending a written notice to investors, Plaintiffs are silent on what action U.S. Bank should have taken. Regardless of what Plaintiffs claim U.S. Bank should have done next, Dr. Hartzmark’s methodology fails to properly measure any servicing damages that are related to U.S. Bank’s duties in this action.

124. First, Dr. Hartzmark’s methodology does not attempt to identify damages caused by the servicer’s alleged violation of foreclosure timelines. In the relevant “but-for” world, one would need to conduct a foreclosure-by-foreclosure inquiry to determine the extent to which, if any, a foreclosure timeline was extended due to the allegations as opposed to other factors such as variation in judicial and non-judicial foreclosure requirements based on the jurisdiction in which the property is located; the type and characteristics of the property, including whether it is owner-occupied or an investment property and whether the mortgage on the property has a high or low LTV ratio; loan modifications requiring foreclosures to stop; judicial backlog and other court programs that slowed foreclosure timelines; and changes to rules and regulations concerning servicer foreclosures. Dr. Hartzmark, or Plaintiffs’ servicing expert, would need to review each servicing file to determine whether any alleged foreclosure delay was caused by servicer action or some other factor that was not associated with the servicer. Moreover, even with respect to servicer actions, a conclusion that a servicer breached in one deal would not mean that the servicer breached with respect to another deal. [REDACTED]

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<sup>131</sup> Plaintiffs’ Renewed Class Certification Motion, pp. 6–7.

[REDACTED]  
[REDACTED] „132

125. In his Rebuttal Report, Dr. Hartzmark concedes that calculating Servicing Damages requires a loan-by-loan inquiry, including, for example, taking into account each state’s foreclosure laws and how those laws affected foreclosure timelines.<sup>133</sup> Dr. Hartzmark, nevertheless, fails to appreciate that “consider[ing] state-specific regulations concerning foreclosures and backlogs” is just the tip of the iceberg in identifying damages actually caused by the servicer’s alleged violation of foreclosure timelines. By way of illustration, consider a borrower who loses her job and stops making mortgage payments. The servicer initiates foreclosure proceedings and both the servicer’s and the state’s foreclosure guidelines give the servicer 18 months to foreclose. Although the servicer is on track to foreclose within that timeline, the defaulting borrower files for bankruptcy. The bankruptcy court’s automatic stay prevents the servicer from foreclosing and each time it looks like the stay will lift, the borrower files a new bankruptcy petition or adversary proceeding, stymieing the servicer’s effort to foreclose. As a result, it takes the servicer a full six years to foreclose on the property. Under Dr. Hartzmark’s model, even taking into account his purported “loan-by-loan inquiry,” the trustee would be liable for servicing fees and charges that the servicer incurred beyond the 18-month guidelines, even though the delay did not result from a servicer breach.

126. Second, Dr. Hartzmark’s methodology makes no attempt to identify what portion of the servicing costs, if any, would have been avoided in the “but-for” world in which U.S. Bank acted as Plaintiffs allege it should have acted. For example, Dr. Hartzmark’s methodology does not determine when U.S. Bank allegedly obtained the requisite knowledge to act, what action U.S. Bank would have or could have taken, and whether the servicer would have, or

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132 [REDACTED]

<sup>133</sup> Hartzmark Rebuttal Report, ¶ 34.

depending on the circumstances above, could have increased foreclosure speeds or reimbursed the Trusts for servicing costs. Further, as with Put Back Damages, there is no guarantee that U.S. Bank would have been successful in its efforts or would have received full recovery of all the fees charged during Dr. Hartzmark's alleged "Excess Foreclosure Months."

127. Third, Dr. Hartzmark's methodology makes no effort to offset or otherwise account for instances where servicers foreclosed on loans more quickly than the "normal" period of loan distress. As described above, Dr. Hartzmark proposes to calculate "Excess Foreclosure Months" on a delinquent loan by comparing how long a loan remained in distress to a benchmarked "normal" period of loan distress. Dr. Hartzmark assumes that any length of time a delinquent loan remains in distress beyond the benchmark is the result of servicer misconduct. Under that theory, the opposite would be equally true: if a delinquent loan remained in distress for a shorter period than "normal," the servicer has performed better than the benchmark and any savings resulting from that better-than-normal performance should offset those instances where a loan remained in distress for longer than "normal."

128. Dr. Hartzmark furthermore ignores differences among class members regarding whether they perceive the speed of foreclosures to be favorable or unfavorable to their investments and whether they would want the trustee to take any action. The only specific issue Dr. Hartzmark raises—that servicers might have acted to cause "Excess Foreclosure Months"—is far from an obviously bad thing, even if true. Faster servicer action on delinquent loans had the potential for both good outcomes (such as a faster sale during a time of falling home prices) or bad outcomes (such as a liquidation occurring at fire sale prices), and, importantly, whether the good outweighed the bad depended on a variety of factors.

#### **B. Constructing the Proper But-For World is Necessary as a Matter of Sound Economics**

129. Throughout the Amended Hartzmark Report and the Hartzmark Rebuttal Report, Dr. Hartzmark labels the proper but-for world reflecting what U.S. Bank and other securitization parties would have done had U.S. Bank fulfilled its alleged obligations under the governing

agreements as “speculative,” “premature,” and “irrelevant.”<sup>134</sup> Dr. Hartzmark goes so far as to claim that addressing what U.S. Bank would have done had U.S. Bank fulfilled its alleged duties is “water under the bridge, and thus, to speculate about what would have happened (and when) and what could have happened (and when), is not relevant to the calculation of damages pursuant to the allegations in this case.”<sup>135</sup> Dr. Hartzmark thus appears to disclaim an obligation as an economist to construct the but-for world in which U.S. Bank fulfilled its alleged contractual obligations.<sup>136</sup> It is difficult to square that position—that “what would have happened (and when) and what could have happened (and when) is not relevant for the construction of the appropriate but-for world”—with his assertion in the preceding sentence that “from an economic perspective, in the but-for world, all Plaintiffs seek is to be put in the same position *today* that they would be in had the Trustee fulfilled its obligations.”<sup>137</sup>

130. Whatever Dr. Hartzmark’s position, it is the role of an economist to determine the economic consequences of the but-for world. Economists are called upon to build a but-for world based on their training and understanding of institutional structures in sufficient detail to understand the impact of actions and inactions. In a breach-of-contract case, an economist must determine what would have happened but for the alleged breach. In this case, then, an economist must determine what would have happened had U.S. Bank performed as Plaintiffs allege. It is

<sup>134</sup> See, e.g., Amended Hartzmark Report, ¶ 70 (“My proposed damages methodology . . . is not built on hypotheticals or but-for scenarios that require speculative assumptions about what would have happened (and when) and what could have happened (and when).”); Hartzmark Rebuttal Report, ¶ 16 (“[A]mbiguous and speculative assumptions obfuscate the but-for world and are not relevant for the damages methodology pursuant to the allegations in this case.”); Hartzmark Rebuttal Report, § V.B. (describing issues relating to the financial condition of sellers/sponsors as “speculative ‘what ifs’” and “premature”); Hartzmark Rebuttal Report, ¶ 22 (“The issue of timing the put back of loans and the timing of recovery is irrelevant . . .”); Hartzmark Rebuttal Report, ¶ 25 (determining “when the trustee discovered [representation and warranty] breaches is premature”); Hartzmark Rebuttal Report, § V.E (describing my criticisms of Dr. Hartzmark’s failure to address uncertainty in the repurchase and negotiation process as “premature”).

<sup>135</sup> Hartzmark Rebuttal Report, ¶ 23.

<sup>136</sup> Hartzmark Rebuttal Report, ¶ 26 (“In summary, all of Dr. James’ timing issues whether related to seller/sponsor bankruptcies, repurchase recoveries or the Trustee’s discovery of alleged breaches are not for the economists to determine[.]”).

<sup>137</sup> Hartzmark Rebuttal Report, ¶ 29.

impossible to make that determination without knowing what U.S. Bank would have done to fulfill its obligations and what would have happened as a result of U.S. Bank fulfilling those obligations. Dr. Hartzmark improperly glosses over the intricacies of the repurchase and foreclosure processes in the but-for world.

**C. Class Members Conflict or Have Individualized Issues Regarding the Repurchase Process In the Proper But-For World.**

131. Plaintiffs allege that U.S. Bank should have forced repurchases of allegedly breaching loans and failed to do so. However, the Complaint does not specify what the repurchase process would have entailed or when it should have taken place. Any chosen but-for world scenario would result in conflicts among investors, but Dr. Hartzmark's methodology fails to consider these economic conflicts. First and foremost, class members in different tranches would conflict today over the timing and U.S. Bank's discovery of representation-and-warranty breaches in the loans in the but-for world. Class members also would conflict regarding when the trustee should have sought repurchase, depending on when they or prior holders of their notes held and the tranche in which they held. Additionally, class members would conflict as to whether there was a breach that required U.S. Bank to seek repurchase in the but-for world. Dr. Hartzmark's methodology does not consider any of these conflicting incentives and instead assumes a scenario that benefits senior tranche holders [REDACTED].

132. *Timing of breaches and repurchase recoveries in the but-for world.* Choosing the time of breach and any repurchase recovery in the but-for world will affect junior and senior tranche holders differently. Generally, the allocation of any amounts received from repurchases may be allocated as prepayments in some situations and as subsequent recoveries in others. The specific treatment is important because, according to the waterfall rules for many trusts, subsequent recoveries are allocated to the tranches that directly absorbed losses, and prepayments are allocated pro rata or sequentially. For example, p. S-38 of the prospectus supplement for HMBT 2004-2 defines "subsequent recovery" as follows:

Additionally, in the event that the Servicer or the Master Servicer recovers any amount with respect to a Liquidated Mortgage Loan with respect to which a

Realized Loss has been incurred after liquidation and disposition of such mortgage loan, any such amount, being referred to herein as a Subsequent Recovery, such Subsequent Recovery will be distributed as part of the Available Funds and the Note Principal Balance of each class of Class A, Class M and Class B Notes that has been reduced by the allocation of a Realized Loss to such Note and not previously reimbursed through the payment of an Allocated Realized Loss Amount will be increased, in order of seniority, by the amount of such Subsequent Recovery.... Any Subsequent Recovery that is received during a Prepayment Period will be included as a part of the Available Funds for the related Payment Date. In other words, a recovery associated with a loan that was previously liquidated would be considered a subsequent recovery and payment would be allocated to the tranche that directly absorbed the loss. If a repurchase occurs related to a loan that has not yet been liquidated, that would be treated as a prepayment.

133. By contrast, as shown on pp. S-65–66 of the prospectus supplement for HMBT 2004-2, a repurchase of a loan that has not been liquidated is treated as a prepayment:

Any payment or other recovery of principal on a mortgage loan which is received in advance of its scheduled Due Date to the extent that it is not accompanied by an amount as to interest representing scheduled interest due on any date or dates in any month or months subsequent to the month of prepayment, including Insurance Proceeds and Repurchase Proceeds, but excluding the principal portion of Net Liquidation Proceeds received at the time a mortgage loan becomes a Liquidated Mortgage Loan.

134. This means that, even if one were to assume that the trustee would have been able to successfully bring about a repurchase of allegedly defective loans in the but-for world, it is essential to determine whether a repurchase would have been of a liquidated loan or a loan that is defective but hasn't yet been liquidated. This requires determining the timing of the repurchase and thus the alleged breach. Senior tranche holders who often would benefit from repurchases being treated as prepayments in the but-for world will have an incentive to argue that the breach and repurchase dates are as early as possible (*i.e.*, before liquidation). Subordinate tranche holders, in contrast, would benefit from treating repurchases as subsequent recoveries and would have an incentive to argue that the breach and repurchase dates in the but-for world occurred as late as possible (*i.e.*, after liquidation). Given that damages to one group of holders necessarily will diminish the amount available to another group, any decision that benefits one group will harm the other.

135. This can be illustrated by an example. Loan # [REDACTED] of HMBT 2004-2 was liquidated in January 2014. If the repurchase occurred before January 2014, it would be treated

as a prepayment and the proceeds would be distributed among the tranches pro rata. If the trustee was able to force a repurchase after January 2014, the principal balance of the most senior tranche that had absorbed a realized loss would have been increased. These are very different outcomes. Dr. Hartzmark's methodology is not equipped to determine whether a particular loan repurchase should be classified as a prepayment or a subsequent recovery. Investors in the various tranches would have opposing viewpoints as to when the repurchase should have occurred in the but-for world based on their own economic interests.

136. Class members additionally have different incentives with respect to the breach and repurchase dates depending on when class members held the notes or when the prior holders of the class members' notes (assuming that class members were assigned certain prior holders' claims) held the notes. This is because an investor would have received repurchase recoveries only while holding the note. If Dr. Hartzmark is correct in his assumption that U.S. Bank had some obligation to take corrective action for loans with any breaches of representations and warranties that U.S. Bank discovered, the timing of such corrective action by U.S. Bank would have affected different noteholders differently. For example, in the but-for world, if U.S. Bank should have demanded repurchase of a loan on a certain date, it would be only at some point after that date that the repurchase recovery for the loan would have been distributed through the trust's waterfall.

137. Thus, an investor with the claims of a prior holder who held in 2010, for example, would prefer a 2010 repurchase date, because in that but-for world the prior holder would have shared in the repurchase. By contrast, an investor that purchased in 2012 and is asserting only the investor's own claims would prefer breach and repurchase dates in 2012 or later. Earlier repurchases would not have benefitted this investor. Similarly, an investor with a prior holder's claim in a tranche that had been written down to zero in February 2010 would prefer a January 2010 repurchase date in the but-for world, because then the prior holder would have been entitled to a cash payment before the investor's tranche was written down to zero. If, however, the but-for world assumes that the repurchase would have occurred later than February

2010, the prior holder in the tranche would not be entitled to any cash payment and the cash that otherwise would go to the investor with the prior holder's claim would go to other class members. Because different investors would share in the repurchase recovery depending on the timing of breach and repurchase, they would have conflicting incentives as to when U.S. Bank should have pursued repurchase.

138. *Whether there was a breach requiring repurchase.* It is my understanding from counsel that Plaintiffs contend that U.S. Bank should have pursued repurchase litigation absent direction and indemnity from investors, thus leaving it to the Trust to pay the costs, fees, and expenses of any repurchase litigation initiated by the trustee. As a result, putative class members will conflict as to whether there was a breach that required U.S. Bank to pursue repurchase. Not all class members today would want to advocate for a but-for world in which there was a breach for which U.S. Bank should have sought repurchase. That is because certain holders—those that would have borne litigation or other costs associated with repurchase—could end up worse off if they are put in the position they would have been had U.S. Bank pursued repurchase. Specifically, if the recovery a holder receives in this case is less than the portion of the repurchase costs that they would have borne in the but-for world, that holder might have to pay money (or would at a minimum receive no recovery). Holders who would not have borne any litigation costs, by contrast, would want to argue that there were breaches in the loans that required U.S. Bank to seek repurchase.

#### **IX. OPINION 3: DR. HARTZMARK'S METHODOLOGY CANNOT ACCOUNT FOR OPT OUTS**

139. My understanding is that in a class action case for damages, members of the putative class must be allowed to "opt out" of the litigation and choose to either pursue an individual litigation or pursue no litigation whatsoever. Given this, it is likely that two investors in the same class of securities may decide to act differently—one participating in the class, and the other not participating. Although Dr. Hartzmark recognizes that in a damages class action members of the proposed class must be allowed to "opt out" and choose to either pursue an

individual action or no action,<sup>138</sup> Dr. Hartzmark does not appear to have considered certain implications of this issue.

140. As explained, Dr. Hartzmark proposes allocating damage payments through each Trust's waterfall, a mechanism designed to distribute money from a borrower's loan payments to all current holders each month. By asserting that the waterfall can be used to allocate damages, Dr. Hartzmark creates a situation where individual securities identifiers ("CUSIPs") represent both class members and opt-out investors, with no clear path to differentiate between the two. There is a significant problem that results from such an outcome.

141. Specifically, I note that after the resolution of the current litigation, and assuming that noteholders who did not opt out are awarded damages, such noteholders will receive funds according to Dr. Hartzmark's waterfall methodology. As a practical matter, such payments will constitute a reduction in the principal amount of the Notes they hold, and the balance of the noteholder who did not opt out (and receives the awarded damages) would be different than the opt-out noteholders' balance. As a result, if the same CUSIP is used for securities held by investors, some of whom opt out and some of whom remain in the class, holders of the same CUSIP will have two different claims on the underlying cash flows.

142. As an example, assume two noteholders (Investor 1 and Investor 2) hold Notes with the same CUSIP and with each having a principal balance of \$10,000,000. If Investor 1 remains in the litigation, and is awarded damages amounting to \$1,000,000, the principal balance of his Note falls to \$9,000,000. Thereafter, Investor 1's principal and interest payments should be based on this lower principal amount. Assume Investor 2, who has a Note with the same CUSIP and a principal value of \$10,000,000, opts out of the litigation. Investor 2 should continue to receive principal and interest payments based on a principal balance of \$10,000,000 regardless of the outcome of the litigation.

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<sup>138</sup> Amended Hartzmark Report, ¶ 69.

143. The existing waterfall rules (and the indentures and sale and servicing agreements setting out those rules) do not contemplate such a situation. As such, if any putative class members were to opt out of the litigation and there were to be an award of damages, additional (and separate) waterfall rules would need to be created. Depending on the arrangement, class members who opted out of the litigation would need to enter into new and different contractual arrangements with, potentially, a different suite of credit enhancements (to reflect, for example, the relative loss of principal balance on subordinate notes held by holders who remain in the class and have some portion of their principal paid down or the balance of their tranche written up) and contractual terms.

144. Dr. Hartzmark's damages methodology alters the nature of the waterfall calculation for future cash flows in each of the Trusts that are awarded damages. The Trust waterfalls, as they currently exist, do not contemplate the "new" opt-out notes described above and cannot be used to calculate payments for the opt-out investors (the "new" notes) or the investors that remain in the litigation.

145. Dr. Hartzmark's methodology creates a host of other issues relating to opt outs. Under the methodology proposed in Dr. Hartzmark's Amended Report and Rebuttal Report, opt-outs would be worse off in terms of subordination and risk. In his Amended Report, Dr. Hartzmark states that "the erosion of principal of the mortgage loans reduces the credit enhancement mechanisms and the level of subordination that protects and supports all tranches at each level of seniority."<sup>139</sup> That very same erosion would afflict opt-out holders under Dr. Hartzmark's methodology.

146. As shown in Exhibit 5 of the Hartzmark Rebuttal Report, Dr. Hartzmark does not adjust the size of the cash payment regardless of whether there are opt-outs. This leads to problems for both junior and senior holders. A simple hypothetical illustrates this point. Consider a trust with three classes of notes, A, B, and C. Class A has a current face value

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<sup>139</sup> Amended Hartzmark Report, ¶ 25.

(“CFV”) of 100, Class B has a CFV of 50, and Class C has a CFV of 50. Assume that these notes were issued by a strictly subordinated trust where all incoming payments (whether characterized as prepayments or subsequent recoveries) pay off the principal balance of the Class A tranche before reaching any lower tranches. Assume further that the holders in the trust obtain a damages award of 150 that is distributed through the trust’s waterfall. If there are no opt-outs, the money flows through the waterfall to pay down the Class A and Class B notes completely. The Class C holders are left with a CFV of 50 and receive no portion of the distribution.

147. Now assume all of the same facts, except that half of the Class A tranche opts out. The non-opt-out portion of Class A has notes with a CFV of 50. Thus, when the 150 in damages is distributed through the waterfall, the non-opt-out portion of Class A is paid down to zero, as are all of Class B and Class C. All that remains in the trust is the opt-out portion of Class A. But instead of being subordinated by the Class B and Class C tranches, Class A is left without any subordination. Any losses that the trust incurs in the future will affect Class A first, even though it is the most senior tranche.

148. Dr. Hartzmark’s methodology also will effectively compel junior holders to opt out by making it impossible for them to evaluate whether they will receive any cash payment. Under Dr. Hartzmark’s methodology, “only after aggregate damages are calculated and the waterfall is run will [the junior noteholders] know whether or not their losses are from *defective* or *non-defective* loans.”<sup>140</sup> Because a junior noteholder will not know whether it is entitled to recovery until after aggregate damages are calculated and run through the waterfall at the end of the case, a junior noteholder cannot reasonably evaluate before the end of the case (as it must) whether to stay in the class or opt out. Thus, a junior noteholder must decide whether to accept a model that may give it no cash payment or to opt out and seek recovery in its own suit.

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<sup>140</sup> Hartzmark Rebuttal Report, ¶ 76.

149. In his Rebuttal Report, Dr. Hartzmark says that he can create a separate CUSIP for opt-outs. Dr. Hartzmark proposes to “creat[e] a new CUSIP with the same features and seniority as the original tranche.”<sup>141</sup> But creating a new CUSIP does not solve the problems above. For example, had the Class A holders who opted out in the example above had a separate CUSIP, they still would have lost subordination by Class B and Class C. And for the junior noteholders deciding whether to opt out, a new CUSIP will not tell them before the end of the case whether they will receive a share of recovery.

**X. OPINION 4: DR. HARTZMARK IGNORES FACTORS OTHER THAN THE ALLEGED BREACHES THAT CONTRIBUTED TO DEFAULTS ON THE LOANS AT ISSUE**

150. After the Trusts in this litigation were offered from 2004 to 2007, the U.S. economy deteriorated significantly. Many have termed the financial market turmoil in 2007 and 2008 the greatest financial crisis since the Great Depression. Nationwide declines in housing prices and increases in unemployment were significant factors—and each is strongly correlated with increases in mortgage defaults, delinquencies, and losses.

151. Dr. Hartzmark assumes that, for all defective loans, U.S. Bank’s alleged breaches (and the underlying purported breaches of underwriting guidelines and representations and warranties) caused the purported erosion in the principal balances of the Notes and increased the risks of holding the Notes. In my opinion, Dr. Hartzmark fails to consider events in the housing, mortgage, and MBS markets after the Trusts closed that may have contributed to losses in the Trusts. Moreover, I would not conclude solely from delinquencies, defaults, losses, and credit downgrades in MBS securities that the loans were defective.

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<sup>141</sup> Hartzmark Rebuttal Report, ¶ 78.

**A. After the Trusts Closed, the U.S. Economy Deteriorated Significantly.**

**1. Home prices and unemployment increased, which correlated to delinquencies, defaults, and loss severities.**

152. Dr. Hartzmark states that “Plaintiffs allege that the Defendant, as Trustee for the Covered Trusts, failed to take certain actions required by the TIA and the Covered Trusts’ Governing Agreements, which has caused and will continue to cause the erosion of the principal balances of the Notes issued by the Covered Trusts, as well as increase the risks of holding the Notes, which in combination will cause a diminution in their value, thereby damaging Plaintiffs.”<sup>142</sup>

153. Implicit in the above statement is the assumption that it was the actions that U.S. Bank allegedly failed to take, *e.g.*, enforcing repurchase rights against sellers, and only such actions, that have caused a purported erosion in the principal balances of the notes and increased the risks of holding the notes. In my opinion, such an assumption fails to consider events in the housing, mortgage, and MBS markets of the past several years.

154. Leading up to 2006, there was a prolonged residential real estate boom, but beginning in 2006 and accelerating thereafter, home prices began to fall nationwide. McDonald and Thornton (2008)<sup>143</sup> state (p. 31):

The United States was in the midst of a residential real estate boom from 1996 to 2005. . . . During this decade, the Standard & Poor/Case-Shiller Home Price Index rose at a compounded annual rate of 8.5 percent per year, more than four times faster than the rate of inflation. Growth in home prices was particularly strong during the period 2000-05, when home prices rose at an annual rate of 11.4 percent. However, since the first quarter of 2006, house price growth has slowed dramatically; and, in the first quarter of 2007, prices fell for the first time since 1991.

155. Exhibit 9 shows the Composite (20) S&P Case-Shiller Non-Seasonally Adjusted Home Price Index, which is value weighted and based on a repeat-sales methodology in 20 metropolitan statistical areas (“MSAs”) around the country. That index fell from 201.6 in

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<sup>142</sup> Amended Hartzmark Report, ¶ 12.

<sup>143</sup> Daniel J. McDonald and Daniel L. Thornton, “A Primer on the Mortgage Market and Mortgage Finance,” *Federal Reserve Bank of St. Louis Review* 90, no. 1, 2008 (“McDonald and Thornton (2008)”), pp. 31–45 at p. 31.

February 2007 to 164.7 in August 2008—an 18% decline. It continued to fall thereafter to approximately 140 in April 2009 and remained stagnated at approximately that level through at least November 2011.

156. The mortgages in many of the pools collateralizing the notes at issue here were concentrated in California and Florida. Housing price changes were particularly dramatic in these states. Haughwout, Peach, and Tracy (2008)<sup>144</sup> state (p. 10, internal footnote omitted):

The housing boom in the first half of this decade was concentrated in a small number of states. . . . Nine states experienced double digit house price appreciation sustained over a five year period [third quarter of 2001 to third quarter of 2006] that were followed by house price declines in the year following. In four of these states (AZ, CA, FL, and NV) the reversal has been especially sharp.

157. Exhibit 9 shows the S&P Case-Shiller Non-Seasonally Adjusted Home Price Index values available for various MSAs in California and Florida. Index values for the San Francisco, Los Angeles, and San Diego MSAs in California fell 28.2%, 29.0%, and 28.6%, respectively, from February 2007 to August 2008. Index values for the Tampa and Miami-Dade County MSAs in Florida fell 23.7% and 34.3%, respectively, over the same period. They continued to fall thereafter through April 2009 and remained stagnated at approximately that level through at least November 2011.

158. When housing prices are increasing, if a borrower loses a job, becomes ill, or otherwise becomes unable to make monthly mortgage payments, the borrower may be able to sell the property and pay off the mortgage. Also, when prices are increasing, if the property must be foreclosed upon, the value of the property often is high enough for the lender (or the servicer of an MBS Trust, in the case of a mortgage held by a Trust) to recover all or a substantial portion of the balance owed. When home prices decline, however—particularly when they decline as severely as they did beginning in late 2006—the situation changes because borrowers who are unable to make the monthly payments are less likely to be able to sell the property for an amount

<sup>144</sup> Andrew Haughwout et al., “Juvenile Delinquent Mortgages: Bad Credit or Bad Economy?,” Federal Reserve Bank of New York Staff Report no. 341, August 2008 (“Haughwout, Peach, and Tracy (2008)”), p. 10.

sufficient to pay off the mortgage. Falling prices also make it more likely that even borrowers that *can* pay will choose to “strategically default,” *i.e.*, walk away from a mortgage that is “underwater.” Also, when prices are falling, if the property is foreclosed upon, it is less likely (all else being equal) that the lender or the MBS Trust will recover all or a substantial portion of the balance owed.

159. Unemployment was another significant factor that changed during the relevant period. When unemployment increases, delinquencies and defaults also tend to increase (all else being equal), for the obvious reason that a borrower who loses his or her job is less able to make a monthly mortgage payment. As shown in Exhibit 10, between May 2007 and April 2008, the unemployment rate increased modestly to 5.0%. Thereafter, however, it began a more dramatic climb, reaching 6.1% in August 2008, 7.3% in December 2008, and peaking at 10.0% in October 2009—a doubling from just a year and a half earlier in April 2008.

160. Numerous studies confirm strong correlations between housing prices and unemployment on the one hand, and delinquencies, defaults, and loss severities on the other. For example, Foote et al. (2010)<sup>145</sup> explain that such economic shocks are far more important in predicting delinquencies than DTI ratios (pp. 89-90, internal footnotes omitted and emphasis added):

We first study the “affordability” of a mortgage, typically measured by the DTI ratio, which is the size of the monthly payment relative to the borrower’s gross income. We find that the *DTI ratio at the time of origination is not a strong predictor of future mortgage default*. A simple theoretical model explains this result. While a higher monthly payment makes default more likely, other factors, such as the level of house prices, expectations of future house price growth, and intertemporal variation in household income, matter as well. *Movements in all of these factors have increased the probability of default in recent years, so a large increase in foreclosures is not surprising. Ultimately, the importance of affordability at origination is an empirical question, and the data show scant evidence of its importance.* We estimate that a 10-percentage-point increase in the DTI ratio increases the probability of a 90-day delinquency by 7%–11%, depending on the borrower. *By contrast, a 1-percentage-point increase in the unemployment*

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<sup>145</sup> Christopher Foote et al., “Reducing Foreclosures: No Easy Answers,” *NBER Macroeconomics Annual 2009* 24, 2010, pp. 89–90.

*rate raises this probability by 10%–20%, while a 10-percentage-point fall in house prices raises it by more than half.*

161. Similarly, McDonald and Thornton (2008) state (p. 31, emphasis added):

[S]ince the first quarter of 2006 house price growth has slowed dramatically; and, in the first quarter of 2007, prices fell for the first time since 1991. *These price declines, combined with higher interest rates, have led to increased mortgage delinquency, especially in the subprime mortgage market.*

162. Additionally, Haughwout, Peach, and Tracy (2008) state (p. 21):

The decomposition indicates that changes in economic variables, particularly this reversal in house price appreciation, from 2003-2007 account for the bulk of our explanation for observed increases in early defaults. In 2006, we estimate that changes in the economy added 2.4 percentage points to the average early default rate for subprime loans, while in 2007 that figure rises to 4.1 percentage points.

163. Similarly, Laderman (2012)<sup>146</sup> states (p. 5):

While many factors contributed to the mortgage crisis, most analysts agree that house prices played a primary role. Even with attractive mortgage rates, the drop in loan-to-value ratios severely limited the ability of borrowers to avoid delinquency by selling their homes or refinancing their loans. This was especially true for subprime borrowers and homeowners with adjustable-rate mortgages. But the decline in house prices appears to have dampened the opportunity for all mortgage borrowers to pay off the principal balance of their loans as an alternative to delinquency.

164. Exhibit 11 uses data from Bloomberg<sup>147</sup> to document increasing delinquencies for U.S. residential loans. As Exhibit 11 shows, as the economy began to deteriorate, all loan types (prime, Alt-A, and subprime) suffered increasing delinquencies. Delinquency rates increased substantially from the summer of 2007 through the spring of 2010.

165. Some contend that house price declines have been influenced by widespread underwriting issues similar to what Plaintiffs allege concerning certain originators in this matter. In the academic literature, this general concern is quite common (it is called endogeneity), and academic economists have developed empirical techniques to separate out the *endogenous*

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<sup>146</sup> Elizabeth Laderman, “Mortgage Prepayment: An Avenue Foreclosed?,” *FRBSF Economic Letter*, February 13, 2012, p. 5.

<sup>147</sup> Bloomberg is an information service commonly used by investors. Among other things, it provides real-time and historical financial market data covering various assets, such as MBS, stocks, corporate and treasury bonds, municipal debt, options, futures, commodities, mutual funds, currencies, and economic indices.

effects (meaning, here, the asserted effect of alleged relaxed lending standards on house prices) from the *exogenous* effects (meaning, here, the effect on house prices not caused by the alleged relaxed lending standards). Indeed, at least one researcher explicitly addressed this for house prices in the context of loan performance and found that the exogenous effects explain most of the impact.<sup>148</sup> That paper uses well-established instrumental variables techniques to account for the potential endogeneity of house prices.

## **2. Disruption of the MBS market.**

166. As the housing market declined, problems also began to appear in the MBS market. These problems abruptly accelerated in August 2007 and continued to worsen into 2008 and 2009.

167. Several mortgage originators went out of business in late 2006 and 2007. For example, New Century Mortgage Corporation (“New Century”), a major originator of subprime loans, declared bankruptcy in April 2007.<sup>149</sup> On June 22, 2007, Bear Stearns disclosed a pledge of up to \$3.2 billion to aid one of its hedge funds and its negotiations with other banks to aid a related hedge fund. Both funds had substantial exposure to subprime-related collateralized debt obligations (“CDOs”).<sup>150</sup> During the week of July 16, 2007, Bear Stearns disclosed that one of the funds had effectively no value and the other one had “very little value” left for investors.<sup>151</sup>

<sup>148</sup> Christopher Palmer, “Why Did So Many Subprime Borrowers Default During the Crisis: Loose Credit or Plummeting Prices?,” University of California at Berkeley Working Paper, September 24, 2015.

<sup>149</sup> “New Century Files For Chapter 11 Bankruptcy,” *CNN Money*, April 3, 2007, [http://money.cnn.com/2007/04/02/news/companies/new\\_century\\_bankruptcy/](http://money.cnn.com/2007/04/02/news/companies/new_century_bankruptcy/), accessed March 13, 2014.

<sup>150</sup> CDOs are structured financial products backed by a diversified pool of assets. Julie Creswell and Vikas Bajaj, “\$3.2 Billion Move by Bear Stearns to Rescue Fund,” *The New York Times*, June 23, 2007, [http://www.nytimes.com/2007/06/23/business/23bond.html?\\_r=0&pagewanted=print](http://www.nytimes.com/2007/06/23/business/23bond.html?_r=0&pagewanted=print), accessed March 13, 2014.

<sup>151</sup> “2 Bear Stearns Funds Are Almost Worthless,” *The New York Times*, July 17, 2007, <http://www.nytimes.com/2007/07/17/business/17cnd-bond.html?pagewanted=print>, accessed March 13, 2014.

The two Bear Stearns funds filed for bankruptcy protection on July 31, 2007.<sup>152</sup> In the meantime, on July 24, 2007, Countrywide Financial Corporation, a leading mortgage lender with substantial exposure to subprime loans, announced its financial results for the second quarter of 2007 (ended June 30), indicating a significant decline in profits and warning that it expected “difficult housing and mortgage market conditions to persist.”<sup>153</sup> Another mortgage lender, American Home Mortgage Investment Corp., filed for Chapter 11 bankruptcy protection on August 6, 2007.<sup>154</sup>

168. In July 2007, the major credit rating agencies recognized that subprime MBS would not perform as expected. On July 10, 2007, Moody’s announced the downgrade of 399 tranches of subprime MBS offerings and put an additional 32 tranches on negative watch; on the same day, S&P put 612 subprime MBS tranches on negative watch.<sup>155</sup> Two days later, S&P downgraded 498 of the 612 tranches it had put on negative watch.<sup>156</sup> Similarly, Fitch put 170 MBS tranches “under analysis” on July 12, 2007, and downgraded 150 tranches on August 1, 2007.<sup>157</sup> These rating actions, in addition to the collapse of the two Bear Stearns hedge funds

<sup>152</sup> Yalman Onaran, “Bear Stearns Halts Redemptions on Third Hedge Fund (Update1),” *Bloomberg*, July 31, 2007, <http://www.bloomberg.com/apps/news?pid=21070001&sid=as4Ljb0FH2kY>, accessed March 13, 2014.

<sup>153</sup> Countrywide Financial Press Release, “Countrywide Reports Diluted EPS of \$0.81 for Second Quarter of 2007,” July 24, 2007.

<sup>154</sup> American Home Mortgage Investment Corp. Press Release, “American Home Mortgage Investment Corp. Files for Chapter 11 Bankruptcy,” August 6, 2007.

<sup>155</sup> Moody’s Investor Service, “Announcement: Moody’s Downgrades Subprime First-Lien RMBS,” July 10, 2007; “Various U.S. First-Lien Subprime RMBS Classes Downgraded,” *PR Newswire*, July 12, 2007, <http://www.prnewswire.com/news-releases/various-us-first-lien-subprime-rmbs-classes-downgraded-52731227.html>, accessed March 13, 2014.

<sup>156</sup> “Various U.S. First-Lien Subprime RMBS Classes Downgraded,” *PR Newswire*, July 12, 2007, <http://www.prnewswire.com/news-releases/various-us-first-lien-subprime-rmbs-classes-downgraded-52731227.html>, accessed March 13, 2014.

<sup>157</sup> “Fitch Affirms \$20B & Downgrades \$2.4B of U.S. Subprime RMBS; New 2005-2006 Surveillance Criteria,” *Business Wire*, August 1, 2007, <http://www.businesswire.com/news/home/20070801005835/en/Fitch-Affirms-20B-Downgrades-2.4B-U.S.-Subprime>, accessed March 16, 2014.

and other market events described above, negatively affected the MBS market, which is reflected in the price declines of MBS, as discussed later.

169. In August 2007, the capital markets experienced the first significant shock of the financial crisis, which took the form of a sudden, system-wide liquidity event affecting the global financial system. This was caused by market concerns about subprime exposures. Specifically, on August 9, 2007, the financial press began widely reporting that BNP Paribas, the largest publicly traded French bank, had suspended redemptions from three of its investment funds that held assets backed in part by U.S. subprime mortgages due to an inability to value those assets.<sup>158</sup> As financial institutions around the globe tried to assess potential exposures to subprime assets by their counterparties, it was unknown where such exposures might be and hence which counterparties might fail. This significantly froze interbank lending, prompting a sudden liquidity crisis that subsequently spread even to fixed-income markets and asset classes such as Alt-A and prime mortgages<sup>159</sup> that were unrelated to subprime mortgages.

170. In late 2007, the financial markets experienced further tightening. During this period, market conditions worsened as many banks took additional write-downs of billions of dollars on mortgage-related assets.<sup>160</sup>

<sup>158</sup> BNP Paribas announced “that the credit squeeze in the United States had made it impossible to calculate the value of the underlying assets of the funds and that the bank was obliged by market conditions to halt holders of the funds from cashing out or new investors from buying shares in the funds.” Jeremy W. Peters, “Stocks Tumble as French Bank Reacts to Home Loan Worries,” *The New York Times*, August 10, 2007, [http://www.nytimes.com/2007/08/10/business/worldbusiness/10bank-web.html?\\_r=0&pagewanted=print](http://www.nytimes.com/2007/08/10/business/worldbusiness/10bank-web.html?_r=0&pagewanted=print), accessed March 14, 2014.

<sup>159</sup> See description and discussion of Alt-A and prime mortgages later in this report.

<sup>160</sup> For example, Citigroup announced that it planned a write-down of \$8 billion to \$11 billion on November 4, 2007; Morgan Stanley announced an expected write-down of \$3.7 billion on November 7, 2007; and UBS announced an expected write-down of \$10 billion on December 10, 2007. See Citigroup, Inc., Form 8-K dated November 5, 2007; Steve Goldstein, “U.S. Stock Futures Drop on Credit Turmoil Concerns: Citigroup Write-down Could be up to \$11 Billion,” *The Wall Street Journal MarketWatch*, November 5, 2007, <http://www.marketwatch.com/story/us-stock-futures-drop-as-citi-to-write-down-up-to-11-billion>, accessed March 16, 2014; Morgan Stanley, Form 8-K dated November 7, 2007; Jonathan

171. In early March 2008, Bear Stearns, a leveraged investment bank with large mortgage exposure, experienced dramatically worsening liquidity issues and a run on the bank. On March 13, 2008, Bear Stearns failed and was subsequently rescued by JPMC with assistance from the Federal Reserve.<sup>161</sup>

172. The financial crises continued to unfold as a series of economic events and government actions occurred in September 2008. On September 7, 2008, Fannie Mae and Freddie Mac, two government-sponsored enterprises that securitized a large fraction of U.S. mortgages, were placed in federal conservatorship.<sup>162</sup> On September 15, 2008, Lehman Brothers filed the largest bankruptcy in U.S. history after the Treasury and Federal Reserve officials decided against a bailout sponsored by taxpayers.<sup>163</sup> On September 16, 2008, American International Group (AIG), a large international insurance company that provided credit protections against mortgage-related structured products, was bailed out by the Federal Reserve.<sup>164</sup> On September 25, 2008, Washington Mutual was placed in receivership by the

Stempel, "Morgan Stanley Sees \$2.5 Billion Subprime Profit Hit," *Reuters*, November 7, 2007, <http://www.reuters.com/assets/print?aid=USWEN244620071107>, accessed March 13, 2014; UBS AG, Form 6-K dated December 10, 2007; "UBS to Write Down \$10 Billion as it Prepares Stake Sales," *The New York Times DealBook*, December 10, 2007, <http://dealbook.nytimes.com/2007/12/10/ubs-to-write-down-10-billion-as-it-prepares-stake-sales/>, accessed March 13, 2014.

<sup>161</sup> See Federal Reserve Bank of St. Louis, "The Financial Crisis: A Timeline of Events and Policy Actions," undated.

<sup>162</sup> See Federal Reserve Bank of St. Louis, "The Financial Crisis: A Timeline of Events and Policy Actions," undated.

<sup>163</sup> "Lehman Brothers Files for Bankruptcy, Scrambles to Sell Key Business," *CNBC.com*, September 15, 2008, <http://www.cnbc.com/id/26708143/print>, accessed March 13, 2014; Federal Reserve Bank of St. Louis, "The Financial Crisis: A Timeline of Events and Policy Actions," undated.

<sup>164</sup> See Federal Reserve Bank of St. Louis – "The Financial Crisis A Timeline of Events and Policy Actions," undated.

FDIC and was acquired by JPMC.<sup>165</sup> An academic article described the events in late 2008 as follows:<sup>166</sup>

In September 2008, several events, including a run on money market funds, nationalization of AIG, Fannie Mae, and Freddie Mac, and particularly the collapse of Lehman Brothers, precipitate[d] a massive financial crisis.

**B. Delinquencies, defaults, losses, and credit downgrades would be expected regardless of seller breaches or violation of underwriting guidelines.**

173. I understand that it is disputed whether the existence of loans that breached representations and warranties can be inferred, in whole or in part, from rising delinquency and default rates in the 46 loan pools at issue. In my opinion, the factors discussed above, including the increase in home prices and unemployment and the related disruption in the MBS markets, contributed to defaults of at-issue loans.

174. Based on the state of the U.S. economy outlined above, I would affirmatively expect to see substantial increases in delinquencies, defaults, and losses in the Trusts as well as other MBS securities in 2007 and later—regardless of whether the originators of the mortgage loans complied with their underwriting guidelines, and regardless of whether the loans complied with the sellers’ representations and warranties. As discussed below, for example, several of the Trusts at issue either outperformed or performed similarly to comparable Trusts. I also would expect to see downward trends in the credit ratings of the different securities at issue. As explained in Section XI., credit ratings of all types of MBS certificates and notes from all, or virtually all, MBS issuers were lowered as the economy deteriorated.<sup>167</sup> Thus, I would not conclude based solely on such trends that the loans in the loan pools violated underwriting guidelines or breached representations and warranties.

<sup>165</sup> See Federal Reserve Bank of St. Louis – “The Financial Crisis A Timeline of Events and Policy Actions,” undated.

<sup>166</sup> Andrei Shleifer and Robert Vishny, “Fire Sales in Finance and Macroeconomics,” *The Journal of Economic Perspectives* 25, no. 1, 2011, pp. 29–48 at p. 39.

<sup>167</sup> See, for example, U.S. Senate Permanent Subcommittee on Investigations, “Wall Street and the Financial Crisis: Anatomy of a Financial Collapse,” April 13, 2011, pp. 31–32.

**C. Dr. Hartzmark improperly assumes that all losses on defective loans are caused by U.S. Bank's alleged breaches.**

175. As explained above, Dr. Hartzmark assumes that for all defective loans, the actions that U.S. Bank allegedly failed to take, and only such actions, caused the purported harm through the purported erosion in the principal balances of the Notes and increased the risks of holding the Notes. In other words, Dr. Hartzmark awards as damages all losses on defective loans without considering whether those losses were in fact caused by U.S. Bank.

176. Dr. Hartzmark fails to consider events in the housing, mortgage, and MBS markets of the past several years, discussed above. To illustrate the problems with Dr. Hartzmark's failure to consider these macroeconomic factors, consider the following hypotheticals. A mortgage loan in a Trust has a representation-and-warranty breach, but that breach is not affecting principal and interest payments made to the Trust each month. At some point, the home associated with that mortgage loan is hit by a meteor, causing the loan to default. Dr. Hartzmark would count losses relating to that default as damages, even though the default had nothing to do with the defective condition of the loan (the representation-and-warranty breach). That is because Dr. Hartzmark makes U.S. Bank responsible for all losses on defective loans without regard to other factors—like a meteor or the worst economic crisis since the Great Depression—that might have contributed to those losses.

**XI. OPINION 5: THERE ARE DIFFERENCES IN FACTS ACROSS DIFFERENT TRUSTS, LOAN POOLS, AND TRANCES / SECURITIES.**

177. I understand that current legal authority provides that, for a class to be certified, questions in the litigation must be resolvable through common answers, and that common questions must predominate over questions resolvable only through individualized answers. I express no opinion on whether either of those things is true in this case; I regard them as legal determinations for the Court to make. I describe in this section of my report, however, a number of ways in which the Trusts, loan pools, and securities in this case differed from each other. In short, [REDACTED]

[REDACTED]<sup>”<sup>168</sup></sup> As I explain in this section and subsequent sections, these differences give rise to numerous individualized issues in this case.

#### A. Differences in Originators Across Trusts

178. Exhibits 12.A and 12.B show dispersion in various characteristics of the 46 loan groups at issue from the 25 Trusts. The Trusts differ considerably with respect to who originated the loans. I understand that federal regulations generally require prospectus supplements to disclose any originator that originated at least 10% of the mortgage loans (typically measured by principal balance) in the Trust.<sup>169</sup>

179. Because there are differences in originators, the facts and arguments in this case necessarily will differ from Trust to Trust. First, I understand that Plaintiffs may attempt to prove, in part through supposedly common evidence, that loans failed to comply with underwriting guidelines and breached representations and warranties. To the extent Plaintiffs present evidence about one originator’s loan-origination practices, that evidence would bear, at most, on Trusts containing that originator’s loan, unless Plaintiffs establish that such evidence says something about Trusts that do not contain that originator’s loans. For example, if Plaintiffs were to present evidence about the origination practices of GreenPoint Mortgage Funding, Inc. (“GreenPoint”), such evidence would be relevant on its face to only three Trusts, because

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<sup>168</sup> [REDACTED]

<sup>169</sup> I understand that this requirement is due to SEC Regulation AB, which did not take effect until January 1, 2006. 17 CFR 229, “Standard Instructions for Filing Forms Under Securities Act of 1933, Securities Exchange Act of 1934 and Energy Policy and Conservation Act of 1975—Regulation S-K,” January 31, 2017.

GreenPoint originated loans in only three Trusts<sup>170</sup> (setting aside the Trusts for which the disclosed originator information is not available, and setting aside the possibility that GreenPoint originated loans in other Trusts but not enough to cross the 10% threshold for disclosure).

Plaintiffs have not shown that GreenPoint's origination practices have anything to do with, say, Wells Fargo's origination practices. Moreover, even for the same originator, proof that the originator failed to comply with its guidelines in one deal would not necessarily prove a breach in another deal. [REDACTED]

[REDACTED] „171  
[REDACTED]

#### **B. Differences in Loan Characteristics Across Trusts and Loan Pools**

180. The 25 Trusts and 46 loan groups differed in numerous ways in terms of the characteristics of the loans they contained and the delinquency and default rates they could be expected to experience. As explained below, this gives rise to Trust-specific and pool-specific issues about U.S. Bank's alleged discovery and the corresponding question of whether U.S. Bank breached its duties. It also gives rise to security-specific issues because different securities (tranches) are supported by different loan pools.

181. First, as shown in Exhibit 12.A, ABSNet (a well-known and frequently used provider of data on MBS) classifies eight of the Trusts as "Prime," four as "Alt-A," and five as "Subprime." In addition, ABSNet classifies one Trust as "Second Lien," four Trusts as "HELOC," one Trust as "High LTV," and two Trusts as "Scratch and Dent." As discussed below, loans of different collateral types have very different characteristics and are expected to perform differently.

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<sup>170</sup> Ex. 33 to Declaration of Timothy A. DeLange in Support of Plaintiffs' Motion for Class Certification of Class Representatives and Class Counsel.

171 [REDACTED]

182. Prime loans generally are first-lien loans to borrowers with strong credit scores who are able to provide documentary verification of income levels and other matters. A report by J.P. Morgan describes non-agency prime loans as follows:<sup>172</sup>

Prime mortgages are high-quality mortgages that meet stringent underwriting guidelines, similar to those set for agency mortgages by Fannie Mae and Freddie Mac. These mortgages tend to fall into the non-agency market because loan balances are greater than those allowed by Fannie and Freddie for conforming loans. Prime mortgage loans have historically carried low default risk and are made to borrowers with good credit records.

183. Alt-A loans generally are loans to borrowers with good credit scores but who may lack such documentation. The same J.P. Morgan report describes Alt-A loans as follows:<sup>173</sup>

Alternative-A (Alt-A) mortgages fall between Prime and Subprime. Credit scores of these borrowers are typically average or above average, but looser loan documentation requirements or larger loan size disqualify these from conforming to Fannie Mae or Freddie Mac underwriting guidelines.

184. Similarly, Sengupta (2010)<sup>174</sup> describes Alt-A loans as follows (pp. 55–56, internal footnotes omitted):

[T]he Alt-A asset class involves loans to borrowers with good credit but includes more aggressive underwriting than the conforming or Jumbo classes (*i.e.*, no documentation of income, high leverage).

. . . [T]he guidelines for selecting mortgages into subprime and Alt-A pools vary by arranger of the MBS. Typically, Alt-A mortgages are underwritten to borrowers of good credit quality—that is, those who would otherwise qualify for a prime loan in terms of their credit history. However, Alt-A borrowers do not satisfy the underwriting rules for prime loans because they are unwilling or unable to provide full documentation on their mortgage application. Their inability to provide this information is largely due to the fact that such borrowers are in professions characterized by variable incomes or are self-employed borrowers operating cash businesses.

<sup>172</sup> “Non-Agency MBS-Managing Opportunities and Risks,” *J.P. Morgan Asset Management*, February 2010, p. 2.

<sup>173</sup> “Non-Agency MBS-Managing Opportunities and Risks,” *J.P. Morgan Asset Management*, February 2010, p. 2.

<sup>174</sup> Rajdeep Sengupta, “Alt-A: The Forgotten Segment of the Mortgage Market,” *Federal Reserve Bank of St. Louis Review* 92, no. 1, 2010, pp. 55–71 at p. 56.

185. Subprime loans are loans to borrowers with low credit scores. The same J.P. Morgan report describes subprime loans as follows:<sup>175</sup>

Subprime is a class of mortgage extended to borrowers with low credit ratings. In general, these borrowers have damaged credit or limited credit history, and provide minimal income and asset verification. Due to the default risk associated with these borrowers, lenders tend to charge a higher interest rate on subprime loans.

186. It is widely understood, including by one of named Plaintiffs' own in-house experts on non-agency RMBS, that prime loans, Alt-A loans, and subprime loans have different expected delinquency and default rates, especially in an environment of declining home prices and rising unemployment.<sup>176</sup> For example, subprime loans generally are expected to have higher delinquency rates than Alt-A and prime loans, and Alt-A loans generally are expected to have higher delinquency rates than prime loans (*see, e.g.*, Exhibit 11).

187. In addition to the above three loan types, the Trusts also consist of second lien loans.

188. Second lien loans are loans that have a second-lien status, implying that the lender would have lower seniority of the loan in the event of forced liquidation than loans with a first-loan status. Home equity line of credit ("HELOC") loans are a sub-category of second lien loans with a revolving line of credit. Fabozzi describes closed-end second lien loans and HELOCs in *The Handbook of Mortgage-Backed Securities* as follows:<sup>177</sup>

A second lien . . . suggests that the creditor has access to the proceeds of liquidation only when the first-lien balance is extinguished. Second liens can either be closed-end loans that amortize over a given term or can be structured as home equity lines of credit (HELOCs) that are revolving debts similar in concept to credit card accounts.

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<sup>175</sup> "Non-Agency MBS-Managing Opportunities and Risks," *J.P. Morgan Asset Management*, February 2010, p. 2.

<sup>176</sup> [REDACTED]

<sup>177</sup> Frank J. Fabozzi ed., *The Handbook of Mortgage-Backed Securities*, 6th ed., (New York: McGraw-Hill Education, 2006), p. 4.

189. Closed-end second liens are expected to have different delinquency rates from HELOCs. For example, a Staff Report by Federal Reserve Bank finds that while HELOCs generally had good credit quality and performed similarly to prime loans, closed-end second liens generally had poor credit quality and performed similarly to subprime loans.<sup>178</sup>

190. High LTV loans are generally second lien loans with a combined LTV (“CLTV”) as high as 125%, which are generally made to borrowers with good credit histories but high debt-to-income ratios (DTIs). ABSNet describes high LTV loans as follows:

HLTV loans [High LTV loan, also sometimes called a 125 loan] are usually second liens made to borrowers with prime or near-prime credit histories but somewhat higher than prime levels of DTIs. The names 125 and High LTV come from the fact that in this market, the total indebtedness (the existing first lien plus the HLTV second lien) is allowed to exceed the value of the property by as much as 25%. The market for HLTV loans expanded rapidly in the mid-1990s until the liquidity crisis of October of 1998 forced many of the Sponsors of this product to either go bankrupt or abandon the business.

191. The CLTV ratio is a primary measure of risk for second lien loans, since it accounts for the existence of any second liens. As discussed later, loans with higher CLTV ratios are expected to have higher default rates.

192. Second, as shown in Exhibits 12.A and 12.B, the specific borrower and loan characteristics differed across the 46 loan pools in the 25 Trusts, as reported in the ABSNet data. For example:

- The percentage of mortgages (measured by principal balance) on properties in California and Florida ranges from 0.0% to 68.4%, and 2.8% to 57.9%, respectively.
- The percentage of mortgages (measured by principal balance) with FICO scores between 600 and 659—generally considered to be on the upper end of subprime—ranges from 0.0% to 41.1%.
- The percentage of mortgages (measured by principal balance) for “full documentation” loans—*i.e.*, loans requiring borrowers to submit

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<sup>178</sup> Donghoon Lee et al., “A New Look at Second Liens,” Federal Reserve Bank of New York Staff Report no. 569, August 2012, Figure 17, pp. 21–22. See also Julapa Jagtiani and William Lang, “Strategic Defaults on First and Second Lien Mortgages during the Financial Crisis,” *The Journal of Fixed Income*, Spring 2011, 20(4), pp. 7–23.

documentation establishing employment, income levels, and/or other matters—ranges from 8.7% to 88.1%.

- The percentage of mortgages (measured by principal balance) associated with purchase-money loans and cash-out refinances (generally considered to be riskier than purchase-money loans) ranges from 28.0% and 81.3%, and 8.2% to 70.8%, respectively.

193. Academic research has shown that these loan characteristics are important indicators of loan performance (both in terms of delinquency rates and of loss severities on defaulted loans). For example, Bhardwaj and Sengupta (2010) state:<sup>179</sup>

Clearly, a priori beliefs about the effect of individual borrower characteristics on credit risk are validated; originations with full documentation have a significantly lower probability of default than low- or no-doc loans. . . . Likewise, a higher CLTV increases the probability of default. . . . In the same manner, the likelihood of default on the mortgage is reduced if the property is owner-occupied rather than for investment purposes and if the loan originated is a refinance as opposed to a direct purchase.

194. Similarly, as I stated in a research paper I co-authored (which has been published in the *Journal of Law and Economics*):<sup>180</sup>

The estimated effects of borrower and loan characteristics on default are generally consistent with our expectations. In particular, we find that default rates are inversely related to FICO scores, the level of documentation, and per capita income in the zip code where the home is located.

195. I also note in the above paper that geography matters for the additional reason that different states have different foreclosure laws, and differences in foreclosure laws influence the likelihood of default.<sup>181</sup>

196. Third, as shown in Exhibit 13, the mortgage loans varied by loan group with respect to origination dates. Some of the loans were originated as early as the 1990s. Indeed,

<sup>179</sup> Geetesh Bhardwaj and Rajdeep Sengupta, “Where’s the Smoking Gun? A Study of Underwriting Standards for US Subprime Mortgages,” Federal Reserve Bank of St. Louis Working Paper 2008-036D, 2010 (“Bhardwaj and Sengupta (2010)”), p. 25. See also Bhardwaj and Sengupta (2010), Tables 9–10.

<sup>180</sup> Cem Demiroglu et al., “State Foreclosure Laws and the Incidence of Mortgage Default,” *Journal of Law and Economics*, forthcoming, pp. 1–67 at pp. 23–24.

<sup>181</sup> Cem Demiroglu et al., “State Foreclosure Laws and the Incidence of Mortgage Default,” *Journal of Law and Economics*, forthcoming, pp. 1–67 at pp. 23–24.

almost one third of the mortgages in loan group 1 of the BAYV 2005-A Trust were originated prior to 2000.

197. Academic research has shown that time of origination is related to likelihood of default. For example, I note in my paper: “Given that house prices continued to increase until mid-2006, the default rates are much lower for the 2005 vintage than the 2006 and 2007 vintages.”<sup>182</sup> Similarly, Bhardwaj and Sengupta (2010) state: “Evidently, there is a remarkable increase in early default rates for post-2004 originations, especially during 2006 and 2007.”<sup>183</sup> Therefore, an MBS securitization from 2007 containing substantial percentages of loans originated in 2007 would be expected to have higher delinquency and default rates than a securitization from the same year containing substantial percentages of loans originated in 2005 or earlier.

198. Based on the foregoing, it is clear that different loan pools at issue in this case would be expected to have different delinquency and default rates. This has implications for the ability to determine on any common basis whether U.S. Bank breached its duties. Specifically, I understand Plaintiffs contend that aberrantly high delinquency and default rates in the loan pools caused (alone or in conjunction with other factors) U.S. Bank to discover defective loans, and that, having acquired this information, U.S. Bank thereafter breached its duties by failing to take steps to cause such loans to be removed from the pools. But Plaintiffs’ reference to “abject” rates is meaningless without a baseline (or multiple baselines for the different loans types) of “normal” rates for comparison purposes. Given the differences across loan pools discussed above, “normal” delinquency and default rates—and therefore what might be considered “abject”—necessarily will vary from Trust to Trust and pool to pool (and tranche to tranche

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<sup>182</sup> Cem Demiroglu et al., “State Foreclosure Laws and the Incidence of Mortgage Default,” *Journal of Law and Economics*, forthcoming, pp. 1–67 at p. 22.

<sup>183</sup> Bhardwaj and Sengupta (2010), p. 2.

given that different pools support different tranches). Therefore, such differences give rise to Trust-specific, pool-specific, and tranche-specific issues.

**C. Differences in Loan Performance Across Trusts, and Between the 25 Trusts and Comparable Trusts**

199. Loan performance not only would be expected to vary, but *did* vary across the 25 different Trusts. As explained below, this creates Trust-specific issues about what knowledge U.S. Bank can be said to have acquired, and when, if ever, it can be said to have acquired it. It also creates corresponding questions of whether and when U.S. Bank allegedly breached its duties.

200. Exhibits 14.A to 14.D present the delinquency percentages of the 25 Trusts. Exhibits 14.A and 14.B present the delinquency percentages of each individual offering and the distribution of such percentages at given points in time. Exhibits 14.C and 14.D are similar, but they show the percentages and distribution after a given *period* of time following the closing of the securitization.

201. Taken together, Exhibits 14.A to 14.D show wide variations in delinquency percentages across the 21 Trusts for which such data are available in ABSNet. For example, for AABST 2004-6, the combined delinquency percentage of all loans in the two loan groups at issue (Groups 1 and 2) reached 10% by November 2005; and for HMBT 2005-1, the combined delinquency percentage of all loans in the loan group at issue did not reach 10% until almost ten years later in April 2015.<sup>184</sup> The exhibits also show, again by way of example, that in July 2007, TMST 2007-1 had the lowest delinquency rate of 0.00% while BAYRT 2005-E had the highest rate of 26.86%. The exhibits show that by December 2011, however, the gap between the lowest and highest delinquency rates had grown to approximately 45%. These exhibits thus show that delinquency rates were not uniform across Trusts, but instead varied substantially—which, as

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<sup>184</sup> These are monthly snapshots of delinquency percentages as reported by ABSNet (based on the monthly remittance reports), not cumulative percentages.

noted above, is to be expected given that the Trusts and mortgage loan characteristics varied in important respects.

202. In fact, some of the older Trusts at issue had been substantially paid off years before Plaintiffs allege the so-called “abject” performance of the collateral pools allegedly should have caused the trustee to discover breaches. For example, some senior tranches in AABST 2004-6 had been fully paid off as early as 2006. In fact, all senior tranches in this Trust had been fully paid off by November 2008. Given this, it is not clear what “abject” performance the trustee was supposed to observe.

203. Exhibit 15 presents somewhat different information and bears more directly on whether the delinquency rates in the Trusts can be considered to be “aberrant” as Plaintiffs allege. This exhibit contains delinquency rates for the Trusts.<sup>185</sup> Exhibits 16 and 17 are similar exhibits showing the performance and relative performance measured by loss severity rates. Exhibits 15 and 17 demonstrate wide variations in how the Trusts performed relative to comparable Trusts.<sup>186</sup>

204. For example, Exhibit 15 shows that AABST 2005-1 and HMBT 2005-3 underperformed their comparable Trusts, while ACCR 2004-2 and TMST 2007-2 outperformed their comparable Trusts. Some Trusts, such as TMST 2007-3 and MLMI 2005-A9, generally tracked the performance of their comparable Trusts. This data indicate that, assuming loan

<sup>185</sup> For each trust that has an asset type of “Prime,” “Alt-A,” or “Subprime,” comparable trusts are defined as residential MBS trusts of the same type of asset class as reported in ABSNet that took place within one month of the Offering in question and were not issued or underwritten by the issuer or underwriter in question. For each trust that has an asset type of “Second Lien,” “HELOC,” or “High LTV” comparable trusts are defined as residential MBS trusts of the asset class of Subprime as reported in ABSNet that took place within one month of the Offering in question and were not issued or underwritten by the issuer or underwriter in question.

<sup>186</sup> This simplistic analysis is used to illustrate the variation in relative performance. A more rigorous and complex analysis would be required to determine why the performance of a particular Trust may have differed from contemporaneous trusts of the same asset class, further illustrating that Plaintiffs’ allegations are based on unrealistic assumptions about the commonality thereof.

performance can give rise to a discovery of breaches at all, whether it did so in this case may differ from Trust to Trust. Stated differently, the data indicate that whether delinquency rates could be argued to be “abject” is not uniform across Trusts; Plaintiffs do not explain how a delinquency rate that is comparable to the delinquency rates of comparable Trusts from other MBS issuers is “abject,” or how a delinquency rate that is better than the rates of comparable Trusts is “abject.”

205. The foregoing data suggest that to the extent that loan pool performance bears on the discovery question: (i) the data will involve different arguments and evidence across the 25 Trusts, with potentially different answers; and (ii) there could be a separate discovery date for each Trust and each loan pool within each Trust, and thus, a separate breach date for each Trust.

#### **D. Differences in Credit-Rating Downgrades**

206. I understand that Plaintiffs contend that credit rating downgrades of the various tranches within the Trusts also created or contributed to a discovery of defective loans on U.S. Bank’s part. Given the substantial changes that occurred in the housing market and the economy at large beginning in 2007, and the effect those changes had on delinquency and default rates throughout the nation, I would expect substantial, across-the-board ratings downgrades irrespective of whether the loans were defective. Indeed, credit ratings of all types of MBS certificates and notes from all, or virtually all, MBS issuers were lowered as the economy deteriorated.<sup>187</sup> I fail to see how any inference of a discovery of breaches can be drawn from the fact that the Trusts at issue were not spared from the downgrades.

207. Even if I were to assume that the fact of ratings downgrades *can* create or contribute to such a discovery then, as I explain below, this too presents Trust-by-Trust and pool-by-pool issues because the timing and severity of ratings downgrades differed across the 25 Trusts, and even within a given Trust, differed across tranches supported by different loan pools.

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<sup>187</sup> See, for example, U.S. Senate Permanent Subcommittee on Investigations, “Wall Street and the Financial Crisis: Anatomy of a Financial Collapse,” April 13, 2011, pp. 31–32.

208. Exhibit 18 summarizes the initial credit rating and the first ratings downgrade for each of the tranches at issue, and Exhibit 19 summarizes all ratings changes.

209. These exhibits show that roughly comparable tranches in different Trusts were downgraded at different times. For example, the earliest downgrade of any tranche at issue occurred as to tranches 1B-1 and 1B-2 (subordinate tranches) in HEMT 2006-2 on May 14, 2007. In contrast, none of the tranches (including subordinate tranches) at issue in BAYV 2005-A was downgraded prior to November 19, 2010.

210. These exhibits also show that roughly comparable tranches within the same offering, but supported by different loan pools, were downgraded at different times. For example, S&P downgraded the senior tranches A-1, A-2A, A-2B, A-2C and A-3B in TMST 2007-1 on July 21, 2009, but did not downgrade A-3A until November 7, 2012, even though A-3A was supported by the same loan pool as A-3B. To the extent that ratings downgrades bear on the discovery of the alleged breaches, the wide variation in the timing of ratings downgrades make discovery a matter of Trust-by-Trust, pool-by-pool, and tranche-by-tranche inquiries.

## **XII. OPINION 6: DR. HARTZMARK DOES NOT PROPOSE A METHODOLOGY THAT CAN IDENTIFY CLASS MEMBERS.**

211. Dr. Hartzmark claims that he has identified “in excess of 272” class members.<sup>188</sup> In counting class members, Dr. Hartzmark includes investors in all 25 Trusts at issue in this case. As explained above in Section XI., the 25 Trusts differed in numerous ways, including with respect to their securitization parties, loan characteristics, loan performance, and credit ratings. As also explained above, these differences give rise to individualized issues in this case.<sup>189</sup>

212. I offer no opinion as to whether, in light of these differences, it is appropriate to include investors in all 25 Trusts in a single class. But even assuming that counting “beneficial owners who currently hold Notes” in all 25 of the Trusts<sup>190</sup> is correct as a legal matter, Plaintiffs’

<sup>188</sup> Amended Hartzmark Report, ¶ 20.

<sup>189</sup> See Section XI., *supra*.

<sup>190</sup> Amended Hartzmark Report, ¶ 16.

class definition imposes an additional requirement beyond “beneficial owner” status. Current holders also must be “damaged as a result of” U.S. Bank’s “alleged breaches of contract and violations of the [TIA].”<sup>191</sup> Dr. Hartzmark offers no method for determining which current holders “were damaged as a result of” U.S. Bank’s alleged conduct.

213. To begin with, Dr. Hartzmark has not explained what it means to be “damaged” in this case. In his reports filed to date, Dr. Hartzmark has offered at least two different measures of damages: (1) a benefit-of-the-bargain approach that purports to quantify all losses due to allegedly defective loans and distribute those losses among current holders, and (2) an “out-of-pocket losses” approach based on “price inflation due to changes in expectations of [U.S. Bank’s] actions.”<sup>192</sup> Current holders might be “damaged” under one approach but not under the other. Without choosing an approach for measuring damages—and thus deciding what “damaged” means—Dr. Hartzmark cannot identify class members.

214. Regardless of the approach Dr. Hartzmark chooses, Dr. Hartzmark fails to explain how he will identify current holders who are “damaged” under either approach. As for the benefit-of-the-bargain approach, even assuming New York’s automatic-assignment rule applies to all current holders’ notes, I understand that a claim does not transfer with the note where the prior holder expressly reserved its claim. Thus, a current holder that (1) suffers no economic losses, and (2) does not possess prior holders’ claims cannot possibly be “damaged.” Dr. Hartzmark, however, does not even attempt to exclude these current holders from the class. It is my understanding that analyzing whether current holders possess prior holders’ claims requires highly individualized inquiries.<sup>193</sup> Similarly, in the context of his price-inflation approach, Dr. Hartzmark does not offer any way to identify current investors who paid more for

<sup>191</sup> Plaintiffs’ Renewed Class Certification Motion, p. 1.

<sup>192</sup> Hartzmark Rebuttal Report, ¶ 13.

<sup>193</sup> Amended Expert Report of John H. Dolan, July 28, 2017, ¶¶ 16–75.

their notes because they expected U.S. Bank to “act to staunch projected losses on defective loans by forcing repurchase.”<sup>194</sup> As discussed above, this approach would require an individualized inquiry into the subjective “expectations” of each investor.

Executed this 28th day of July, 2017



Christopher M. James, Ph.D.

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<sup>194</sup> Hartzmark Rebuttal Report, ¶ 10.

## Exhibit 1

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"Using Internal Capital Markets to Lower Capital Costs in Banking," (with J. Houston), Journal of Applied Corporate Finance, Summer, 1998.

Discussion of "Financial Institutions and Regulations: The Dilemma in a Deregulated World," Proceedings from Riksbank Conference: Forces for and Implications of Structural Changes in the Financial Sector, June, 1997.

"Evolution of Extinction: Where are Banks Headed," (with J. Houston), Journal of Applied Corporate Finance, Summer, 1996.

"RAROC at Bank of America: From Theory to Practice, Journal of Applied Corporate Finance, Summer, 1996.

"Bank Equity Positions in Distressed Firms," Saunders, Anthony and Ingo Walter (ed.), Universal Banking: Financial System Design Reconsidered, (Irwin), 1996.

"The Use of Index Amortizing Swaps by Banc One," (with C. Smith), Journal of Applied Corporate Finance, Fall, 1994.

"Private Versus Public Creditor Experience in Distressed Firm Debt Restructurings," (with D. Brown and M. Mooradian), Altman, Edward (ed.), Bankruptcy and Distressed Restructurings: Analytical Issues and Investment Opportunities, (Business One Irwin), 1994.

"Banc One's Index Amortizing Swap Strategy," (with C. Smith), Journal of Applied Corporate Finance, 1994.

"Studies in Financial Institution," (with C. Smith), Commercial Banks, 1994.

Statement of Christopher James, Professor, College of Business, The University of Florida at Gainesville at Hearing before the Senate Committee on Banking, Housing and Urban Affairs – 102nd Congress, 4/26/91 (BIF Recapitalization).

"Off-Balance Sheet Activities and the Under Investment Problem in Banking," Journal of Accounting, Auditing, and Finance, Spring, 1989.

"The Incidence of Mispriced Deposit Insurance," Presented at 1989 American Economic Association Meetings.

"Are Bank Loans Different? Some Evidence From the Stock Market," (with P. Wier), Journal of Applied Corporate Finance, Summer, 1988.

"Acquisitions in Banking," Weekly Letter, Federal Reserve Bank of San Francisco.

"Off-Balance Sheet Banking," Weekly Letter, Federal Reserve Bank of San Francisco.

"Are Bank Loans Special?" Weekly Letter, Federal Reserve Bank of San Francisco.

"Off-Balance Sheet Banking," Economic Review, Federal Reserve Bank of San Francisco, Fall, 1987.

Discussion of "The Search for Financial Stability: The Past Fifty Years," Proceedings from the Federal Reserve Bank of San Francisco Conference on the Search for Financial Stability, June, 1985.

"An Analysis of FDIC Failed Bank Auction Procedures," (with P. Wier), Proceedings of a Conference on Bank Structure and Competition, May, 1985.

"Bank Holding Company Acquisitions and Managerial Efficiency," Proceedings of a Conference on Bank Structure and Competition, May, 1984.

"Market Based Measures of Risk for Banks and Savings and Loan Associations," Report prepared for the Federal Home Loan Bank Board, May, 1987.

"An Economic Analysis of Inter-industry Acquisitions of Thrift Institutions," Report prepared for the Office of the Comptroller of the Currency, February, 1982.

"Loan Rate Indexation and the Allocation of Bank Credit," Proceedings of a Conference on Bank Structure and Competition, May, 1980.

## SERVICE ACTIVITIES

Advisory Editor: Journal of Banking and Finance, 2007-present.

Associate Editor: Journal of Financial Services Research, 1989-present.

Associate Editor: Journal of Managerial and Decision Economics, 1988-present.

Associate Editor: Journal of Financial Economics, 1993-2016.

Editorial Board: Federal Reserve Bank of New York: Economic Review, 1997-2007.

Academic Board: Turnaround Management Association, 1990-2002.

Associate Editor: Journal of Banking and Finance, 1999-2001.

Associate Editor: Journal of Finance, 1988-2000.

Co-Editor: Journal of Financial Intermediation, 1988-1999.

Associate Editor: Journal of Financial and Quantitative Analysis, 1982-1984.

Reviewer: Journal of Finance; Journal of Money, Credit and Banking; Journal of Financial Economics; Journal of Financial Management; Journal of Banking and Finance; Journal of Business and Economics; Journal of Monetary Economics; American Economic Review; Journal of Political Economy; Review of Financial Studies; Journal of Corporate Finance; Journal of Law and Economics; Journal of Accounting and Economics.

Program Committee: Financial Management Association, Western Finance Association, American Finance Association, European Finance Association and Utah Winter Finance Conference.

## **CONSULTING/EXECUTIVE EDUCATION ACTIVITIES**

Board of Directors ID<sup>2</sup>, Inc.

Senior Advisor, Cornerstone Research.

Independent Distribution Consultant, Janus Funds, 2004-2010.

Advisory Board Big Brothers Big Sisters of North Central Florida 2000-2016.

Advisory Board and Board of Directors, SunTrust Bank of Florida 1989-2006.

Consultant, Federal Reserve Bank of New York, 1997, 2004.

Consultant, Federal Reserve Board of Governors, 1995, 1998.

Research Director, Garn Institute of Finance, Salt Lake City, Utah, 1987-1989.

Instructor, Pacific Coast Banking School: Commercial Lending, Financial Markets, Workout Lending.

Instructor, Swiss National Bank, Gerzensee, Switzerland, Bank Safety and Soundness Regulation.

Executive Seminars on bank deregulation, valuation, venture capital, strategic management, lender liability, and asset and liability management.

Expert Witness: Cases involving antitrust, portfolio management, securities valuation, bank management, structured finance, valuation, and regulatory matters.

Consultant: Product pricing, valuation, structured finance, portfolio management, utilities regulation, valuation of securities, mergers and acquisitions, and risk management.

Consultant to the Office of the Comptroller of the Currency, 1982-1983: Bank and Thrift Mergers.

Consultant to the Investment Company Institute, 1983: Bank Offerings of Mutual Funds.

Consultant to the FDIC, Costs of Resolving Bank and Thrift Failures.

Recipient of a grant from MidAmerica Institute to study management compensation in banking, 1992.

Recipient of grant from Federal Home Loan Bank Board to study the information content

of savings and loan accounting information.

Member: Research Committee: Garn Institute of Finance, 1989-1992.

Research Associate at the Business Regulation Study Center, 1980.

## **AWARDS**

Outstanding Teaching Award: MBA Association, University of Florida, 1994, 1996, 1998, 1999, 2000, 2010.

Outstanding Teaching Award: MBA Association, University of Oregon, 1985.

Harry R. Jacobs, Professional Service Award, University of Oregon, 1985.

Valedictorian, Michigan State University, 1973.

## Exhibit 2

### Testimony of Christopher M. James in the Previous Four Years

*United States of America v. Countrywide Financial Corporation, Countrywide Home Loans, Inc., Countrywide Bank, FSB, Bank of America Corporation, Bank of America, N.A., and Rebecca Mairone*, United States District Court Southern District of New York, Case No. 12-cv-1422 (JSR), deposition, 2013.

*Securities and Exchange Commission v. BankAtlantic Bancorp, Inc. and Alan B. Levan*, United States District Court Southern District of Florida, Case No. 0:12-cv-60082-RNS, testimony at hearing, 2013.

*Krista O'Donovan, Eduardo De La Torre and Lori Saysourivong, Individually and on Behalf of All Others v. CashCall, Inc.*, United States District Court Northern District of California, Case No. C 08-03174 MEJ, deposition, 2013.

*In the Matter of John J. Aesoph, CPA and Darren M. Bennett, CPA*, Before the United States Securities and Exchange Commission, Administrative Proceeding File No. 3-15168, trial testimony, 2013.

*In re: Merck & Co., Inc. Securities, Derivative & "ERISA" Litigation*, United States District Court for the District of New Jersey, MDL No. 1658 (SRC), Relating to Civil Action Nos. 05-1151 (SRC) and 05-2367 (SRC), deposition, 2013.

*Kamian Schwartzman v. Morningstar, Inc.*, United States District Court Eastern District of Pennsylvania, Civil Action No. 2:12-cv-01647-BMS, deposition, 2013.

*Financial Guaranty Insurance Company v. Countrywide Home Loans, Inc., et al.*, Supreme Court of the State of New York, County of New York, Index No. 650736/2009, IAS Part 3, deposition, 2013.

*Kamian Schwartzman v. Morningstar, Inc.*, United States District Court Eastern District of Pennsylvania, Civil Action No. 2:12-cv-01647-BMS, trial testimony, 2014.

*Fort Worth Employees' Retirement Fund, et al. v. J.P. Morgan Chase & Co., et al.*, United States District Court Southern District of New York, Civil Action No. 1:09-cv-03701-JGK, deposition, 2014.

*Securities and Exchange Commission v. Larry A. Goldstone, Clarence G. Simmons, III, and Jane E. Starrett*, United States District Court for the District of New Mexico, Case No. 1:12-cv-00257, deposition, 2014.

*Avenue CLO Fund, Ltd., et al. v. Bank of America, N.A., et al.*, United States District Court for the District of Nevada, Case No. 2:09-cv-01047-KJD-PAL, deposition, 2014.

*Geveran Investments Ltd. v. Lighting Science Group Corp., J.P. Morgan Securities, LLC*,

*Pegasus Capital Advisors, LLC, et al.*, Circuit Court of the 17<sup>th</sup> Judicial District of Broward County, Florida, Case No. 12-17738, deposition, 2014.

*Policemen's Annuity and Benefit Fund of the City of Chicago, et al. v. Bank of America, N.A., et al.*, United States District Court Southern District of New York, Case No. 1:12-cv-02865-KBF, deposition and testimony at hearing, 2014.

*The Western and Southern Life Insurance Company, et al. v. DLJ Mortgage Capital, Inc., et al.*, Court of Common Pleas, Hamilton County, Ohio, Case No. A1105352, deposition, 2014.

*In re: BP plc Securities Litigation*, United States District Court Southern District of Texas, Houston Division, MDL No. 10-md-2185, Civil Action No. 4:10-md-2185, deposition, 2014.

*Federal Housing Finance Agency v. Goldman Sachs & Co., et al.*, United States District Court Southern District of New York, Case No. 1:11-cv-06198-DLC, deposition, 2014.

*Felton A. Spears, Jr. and Sidney Scholl, on Behalf of Themselves and All Others Similarly Situated v. First American eAppraiseIT (a/k/a eAppraiseIT, LLC)*, United States District Court Northern District of California, San José Division, Case No. 5:08-cv-00868-RMW, deposition, 2014.

*In re: Countrywide Financial Corp. Mortgage-Backed Securities Litigation* [Lead Case No. 11-ML-2265-MRP (MANx)], *Federal Deposit Insurance Corporation as Receiver for Colonial Bank v. Countrywide Securities Corporation, et al.* [Case No. 12-CV-08317-MRP (MANx)], *Federal Deposit Insurance Corporation as Receiver for United Western Bank v. Countrywide Financial Corporation, et al.* [Case No. 11-CV-10400-MRP (MANx)], and *Federal Deposit Insurance Corporation as Receiver for Franklin Bank v. Countrywide Securities Corporation, et al.* [Case No. 12-CV-03279-MRP (MANx)], United States District Court Central District of California, deposition, 2014.

*In re: Fundamental Long Term Care, Inc.*, United States Bankruptcy Court Middle District of Florida, Tampa Division, Case No. 8:11-bk-22258-MGW, trial testimony, 2014.

*Alex Morales, on Behalf of Himself and All Others Similarly Situated v. Progressive Casualty Insurance Company*, United States District Court Southern District of Florida, Case No. 0:13-cv-60199-RNS, deposition, 2014.

*Federal Deposit Insurance Corporation as Receiver for Franklin Bank, S.S.B. v. Morgan Stanley & Company LLC f/k/a Morgan Stanley & Co., Inc.*, In the District Court of Harris County, Texas, 151<sup>st</sup> Judicial District, Cause No. 2011-67305, deposition, 2014.

*Securities and Exchange Commission v. BankAtlantic Bancorp, Inc. and Alan B. Levan*, United States District Court Southern District of Florida, Case No. 0:12-cv-60082-RNS, trial testimony, 2014.

*Mary Ann Sivolella, et al. v. AXA Equitable Life Insurance Company and AXA Equitable Funds Management Group, LLC* (Civil Action No. 3:11-cv-04194-PGS-DEA) and *Glenn D. Sanford, et*

*al. v. AXA Equitable Funds Management Group, LLC* (Civil Action No. 3:13-cv-00312-PGS-DEA), United States District Court for the District of New Jersey, deposition, 2014.

*The Western and Southern Life Insurance Company, et al. v. Morgan Stanley Mortgage Capital, Inc., et al.*, Court of Common Pleas, Hamilton County, Ohio, Case No. A1105563, deposition, 2014.

*Federal Home Loan Bank of Seattle v. Barclays Capital, Inc., et al.* (Case No. 09-2-46320-4 SEA), *Federal Home Loan Bank of Seattle v. Goldman Sachs & Co., et al.* (Case No. 09-2-46349-2 SEA), and *Federal Home Loan Bank of Seattle v. Morgan Stanley & Co., Inc., et al.* (Case No. 09-2-46348-4 SEA), Superior Court of Washington for King County, deposition, 2015.

*David M. Loritz, Individually and on Behalf of All Others Similarly Situated v. Exide Technologies, et al.*, United States District Court Central District of California, Master File No. 2:13-cv-02607-SVW-E, deposition, 2015.

*Ambac Assurance Corporation and The Segregated Account of Ambac Assurance Corporation v. Countrywide Home Loans, Inc., et al.*, Supreme Court of the State of New York, County of New York, Index No. 651612/2010, deposition, 2015.

*Gloria Stitt, et al. v. Citibank, N.A. and CitiMortgage, Inc.*, United States District Court Northern District of California, Oakland Division, Case No. 4:12-cv-03892-YGR, deposition, 2015.

*Federal Deposit Insurance Corporation as Receiver for Franklin Bank, S.S.B. v. Morgan Stanley & Company LLC f/k/a Morgan Stanley & Co., Inc.*, In the District Court of Harris County, Texas, 151<sup>st</sup> Judicial District, Cause No. 2011-67305, deposition, 2015.

*In re: JPMorgan Chase & Co. Securities Litigation*, United States District Court Southern District of New York, Master File No. 1:12-cv-03852-GBD, deposition, 2015.

*Barbara Strougo, Individually and on Behalf of All Others Similarly Situated v. Barclays PLC, et al.*, United States District Court Southern District of New York, Case No. 14-cv-5797 (SAS), deposition and testimony at hearing, 2015.

*Federal Home Loan Mortgage Corporation v. Deloitte & Touche LLP*, United States District Court Southern District of Florida, Miami Division, Civil Action No. 1:14-cv-23713-UU, deposition, 2015.

*In re: MF Global Holdings Ltd. Investment Litigation* [Case No. 12-MD-2338 (VM)], *Joseph DeAngelis, et al. v. Jon S. Corzine, et al.* [Case No. 11-Civ-7866 (VM)], United States District Court Southern District of New York, Relating to *Sapere CTA Fund, L.P. v. Jon S. Corzine, et al.* [Case No. 11-Civ-9114 (VM)], *Nader Tavakoli, as Litigation Trustee of the MF Global Litigation Trust v. Jon S. Corzine, et al.* [Adv. Pro. No. 13-01333 (MG)], and *U.S. Commodity Futures Trading Commission v. MF Global Holdings Ltd., et al.* [Case No. 11-Civ-7866 (VM) (USCFTC)], deposition, 2015.

*National Credit Union Administration Board, as Liquidating Agent of U.S. Central Federal Credit Union and of Western Corporate Federal Credit Union v. Goldman Sachs & Co., et al.* [Case No. 11-cv-6521 GW (JEMx)] and *National Credit Union Administration Board, as Liquidating Agent of Western Corporate Federal Credit Union v. RBS Securities, Inc., et al.* [Case No. 11-cv-5887 GW (JEMx)], United States District Court Central District of California; *National Credit Union Administration Board, as Liquidating Agent of U.S. Central Federal Credit Union v. RBS Securities, Inc., et al.* [Case No. 11-cv-2340 JWJ (JPO)], United States District Court for the District of Kansas; *National Credit Union Administration Board, as Liquidating Agent of Southwest Corporate Federal Credit Union and Members United Corporate Federal Credit Union v. Credit Suisse Securities (USA) LLC, et al.* [Case No. 13-CV-6736 (DLC)], *National Credit Union Administration Board, as Liquidating Agent of Southwest Corporate Federal Credit Union v. Goldman Sachs & Co., et al.* [Case No. 13-CV-6721 (DLC)], and *National Credit Union Administration Board, as Liquidating Agent of Southwest Corporate Federal Credit Union and Members United Corporate Federal Credit Union v. UBS Securities LLC* [Case No. 13-CV-6731 (DLC)], United States District Court Southern District of New York, deposition, 2016.

*In re: Russell Investment Company Shareholder Litigation*, United States District Court for the District of Massachusetts, Lead Case No. 1:13-cv-12631-LTS, Consolidated Case No. 1:14-cv-14358-LTS, deposition, 2016.

*John Lauriello, et al. v. Caremark Rx, LLC, et al.*, In the Circuit Court of Jefferson County, Alabama, Case No. CV-2003-006630, deposition, 2016.

*Mary Ann Sivolella, et al. v. AXA Equitable Life Insurance Company and AXA Equitable Funds Management Group, LLC* (Civil Action No. 3:11-cv-04194-PGS-DEA) and *Glenn D. Sanford, et al. v. AXA Equitable Funds Management Group, LLC* (Civil Action No. 3:13-cv-00312-PGS-DEA), United States District Court for the District of New Jersey, trial testimony, 2016.

*Lawrence E. Jaffe Pension Plan, on Behalf of Itself and All Others Similarly Situated v. Household International, Inc., et al.*, United States District Court Northern District of Illinois, Eastern Division, Case No. 1:02-cv-05893, deposition, 2016.

*Första AP-fonden and Danske Invest Management A/S, Individually and on Behalf of All Others Similarly Situated v. St. Jude Medical, Inc., et al.*, United States District Court for the District of Minnesota, Civil Action No. 12-3070 (JNE/HB), deposition, 2016.

*In re: California Municipal Fund Litigation*, United States District Court for the District of Colorado, Case No. 09-md-02063-JLK-KMT, deposition, 2016.

*Morgan Stanley Mortgage Loan Trust 2006-14SL, Mortgage Pass-Through Certificates, Series 2006-14SL and Morgan Stanley Mortgage Loan Trust 2007-4SL, Mortgage Pass-Through Certificates, Series 2007-4SL v. Morgan Stanley Mortgage Capital Holdings LLC, as Successor to Morgan Stanley Mortgage Capital Inc.*, Supreme Court of the State of New York, County of New York, Index No. 652763/2012, deposition, 2016.

*Barbara Strougo, Individually and on Behalf of All Others Similarly Situated v. Barclays PLC, et al.*, United States District Court Southern District of New York, Case No. 14-cv-5797 (SAS), deposition, 2016.

*In re: Petrobras Securities Litigation*, United States District Court Southern District of New York, Case No. 14-cv-9662 (JSR), deposition, 2016.

*Terrence Zehrer v. Harbor Capital Advisors, Inc.* (Case No. 1:14-cv-00789) and *Ruth Tumpowsky v. Harbor Capital Advisors, Inc.* (Case No. 1:14-cv-07210), United States District Court Northern District of Illinois, Eastern Division, deposition, 2016.

*National Credit Union Administration Board, as Liquidating Agent of U.S. Central Federal Credit Union and of Western Corporate Federal Credit Union v. UBS Securities, LLC, et al.* (Case No. 2:12-cv-02591-JWL-JPO) and *National Credit Union Administration Board, as Liquidating Agent of U.S. Central Federal Credit Union, Western Corporate Federal Credit Union, and of Southwest Corporate Federal Credit Union v. Credit Suisse Securities (USA) LLC, et al.* (Case No. 2:12-cv-02648-JWL-JPO), United States District Court for the District of Kansas, deposition, 2016.

*The Colonial BancGroup, Inc., and Kevin O'Halloran, as Plan Trustee v. PricewaterhouseCoopers LLP and Crowe Horwath LLP* (Case No. 2:11-cv-00746-WKW) and *Federal Deposit Insurance Corporation, as Receiver for Colonial Bank v. PricewaterhouseCoopers LLP and Crowe Horwath LLP* (Case No. 2:11-cv-00957-WKW), United States District Court Middle District of Alabama, Northern Division, deposition, 2016.

*Federal Housing Finance Agency, as Conservator for the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation v. The Royal Bank of Scotland Group PLC, et al.*, United States District Court for the District of Connecticut, Case No. 3:11-cv-01383-AWT, deposition, 2016.

*Wahan Krikorian, On Behalf of the TPS Parking Management, LLC 401(k) Plan and On Behalf of All Other Similarly Situated Employee Benefit Plans v. Great-West Life & Annuity Insurance Company, et al.*, United States District Court for the District of Colorado, Case No. 1:16-cv-00094, deposition, 2016.

*Commerce Bank, Cedar Hill Mortgage Opportunity Master Fund, L.P., Wells River, and Thomaston Savings Bank v. U.S. Bank National Association*, United States District Court Western District of Missouri, Western Division, Case No. 4:13-cv-00517-BCW, deposition, 2016.

*Royal Park Investments SA/NV, Individually and on Behalf of All Others Similarly Situated v. U.S. Bank National Association, as Trustee*, United States District Court Southern District of New York, Case No. 1:14-cv-02590-VM, deposition, 2017.

*In the Matter of the Arbitration between Starr Indemnity & Liability Company v. Weatherford International plc*, deposition, 2017.

*Royal Park Investments SA/NV v. Wells Fargo Bank, N.A., as Trustee*, United States District Court Southern District of New York, Case No. 14-CV-09764 (KPF) (SN), deposition, 2017.

*Merrill Lynch Mortgage Investors Trust, Series 2006-RM4, Merrill Lynch Mortgage Investors Trust, Series 2006-RM5 v. Merrill Lynch Mortgage Lending, Inc., Merrill Lynch Mortgage Investors, Inc., Bank of America, National Association*, Supreme Court of the State of New York, County of New York, Index No. 654403/2012, deposition, 2017.

*Securities and Exchange Commission v. BankAtlantic Bancorp, Inc. and Alan B. Levan*, United States District Court Southern District of Florida, Case No. 0:12-cv-60082-RNS, trial testimony, 2017.

*Deutsche Bank National Trust Company, solely in its capacity as Trustee for the Morgan Stanley Structured Trust I 2007-1 v. Morgan Stanley Mortgage Capital Holdings LLC, as Successor-by-Merger to Morgan Stanley Mortgage Capital Inc.*, United States District Court Southern District of New York, Case No. 1:14-cv-03020-LTS-AJP, deposition, 2017.

*CMFG Life Insurance Company, CUMIS Insurance Society, and MEMBERS Life Insurance Company v. Morgan Stanley & Co., LLC*, United States District Court Western District of Wisconsin, Case No. 13-cv-577 (JDP), deposition, 2017.

*In re: Medtronic, Inc. Securities Litigation*, United States District Court for the District of Minnesota, Master File No. 0:13-cv-01686-JRT-FLN, deposition, 2017.

## Exhibit 3

### Documents Relied Upon by Christopher M. James, Ph.D.

<u>Document Title, Bates Numbers</u>	<u>Document Date</u>
<b>Legal Pleadings</b>	
Amended Class Action Complaint	July 2, 2015
Notice of Plaintiffs' Motion for Class Certification and Appointment of Class Representative and Class Counsel	November 1, 2016
Plaintiffs' Memorandum of Points and Authorities in Support of Motion for Class Certification and Appointment of Class Representatives and Class Counsel	November 1, 2016
Declaration of Benjamin Galdston in Support of Plaintiffs' Motion for Class Certification and Appointment of Class Representative and Class Counsel, with Exhibit A-UU	November 1, 2016
Declaration of Christopher M. James, Ph.D. in Support of U.S. Bank's Opposition to Motion for Class Certification, <i>Royal Park Investments SA/NV v. U.S. Bank National Association</i> , No. 14-cv-2590 (S.D.N.Y. Mar. 3, 2017), ECF 183-1	March 3, 2017
Objection of W&L Investments, Inc., <i>In re the Application of U.S. Bank Nat'l Ass'n, et al.</i> , Index No. 652382/2014 (N.Y. Sup. Ct. Oct. 31, 2014)	October 31, 2014
Verified Petition, <i>In re Bank of New York Mellon</i> , Index No. 150973/2016, NYSCEF Doc. No. 1	February 5, 2016
Brief of Certain Institutional Investors Concerning the Remaining Disputed Trusts, <i>In re Bank of New York Mellon</i> , Index No. 150973/2016, NYSCEF Doc. No. 96	August 12, 2016
Decision & Order, <i>In re Bank of New York Mellon</i> , Index No. 150973/2016, NYSCEF Doc. No. 193	April, 4, 2017
Plaintiffs' Memorandum of Points and Authorities in Support of Renewed Motion for Class Certification and Appointment of Class Representatives and Class Counsel, <i>Blackrock Core Bond Portfolio et al. v. U.S. Bank National Association</i>	June 21, 2017
Declaration of Timothy A. DeLange in Support of Plaintiffs' Motion for Class Certification of Class Representatives and Class Counsel, Exhibit 33	
<b>Expert Reports</b>	
Expert Report of Michael L. Hartzmark, Ph.D.	November 1, 2016
Rebuttal Expert Report of Jennifer Press	February 3, 2017
Expert Report of Michael L. Hartzmark, <i>Policemen's Annuity &amp; Benefit Fund of the City of Chicago et al. v. Bank of Am. et al.</i> , No. 12-cv-02865	January 17, 2014
Amended Expert Report of John H. Dolan	July 28, 2017
Expert Report of W. Scott Dalrymple, CFA, Royal Park Investments SA/NV v. U.S. Bank National Association, No. 14-cv-2590 (S.D.N.Y. Dec. 21, 2016), ECF 152-1	December 21, 2016
Expert Rebuttal Report of Michael L. Hartzmark, Ph.D.	March 3, 2017
Amended Expert Report Michael L. Hartzmark, Ph.D.	June 21, 2017
Expert Rebuttal Report of Michael L. Hartzmark, Ph.D., <i>Fixed Income Shares: Series M, et al. v. Citibank N.A. et al.</i> , No. 14-cv-09373-JMF	November 14, 2016
Amended Rebuttal Expert Report of Jennifer Press	July 28, 2017

<u>Document Title, Bates Numbers</u>	<u>Document Date</u>
<b>Depositions</b>	
Deposition of Michael L. Hartzmark, <i>Policemen's Annuity &amp; Benefit Fund of the City of Chicago et al. v. Bank of Am. et al.</i> , No. 12-cv-02865	March, 11, 2014
Deposition of [REDACTED], <i>Blackrock Core Bond Portfolio et al. v. U.S. Bank Nat'l Ass'n</i> , No. 14-cv-9401	November 10, 2016
Deposition of [REDACTED], <i>Wells Fargo Bank Nat'l Ass'n v. Royal Park Investments SA/NV et al.</i> , No. 14-cv-9371	January 12, 2017
Deposition of [REDACTED], <i>Blackrock: Series S v. Wells Fargo</i> , No. 14-cv-9371	January 13, 2017
Deposition of [REDACTED], <i>Blackrock Allocation Target Shares: Series S Portfolio et al. v. Wells Fargo Bank, Nat'l Ass'n</i> , No. 14-cv-9371	February 13, 2017
Deposition of [REDACTED], <i>Wells Fargo Bank Nat'l Ass'n v. Royal Park Investments SA/NV et al.</i> , No. 14-cv-9371	March 3, 2017
Deposition of [REDACTED], <i>Blackrock Core Bond Portfolio et al. v. U.S. Bank Nat'l Ass'n</i> , No. 14-cv-9401	March 28, 2017
Deposition of [REDACTED], <i>Blackrock Core Bond Portfolio et al. v. U.S. Bank Nat'l Ass'n</i> , No. 14-cv-9401	April 5, 2017
Deposition of [REDACTED], <i>Blackrock Core Bond Portfolio et al. v. U.S. Bank Nat'l Ass'n</i> , No. 14-cv-9401	April 28, 2017
<b>Data Sources</b>	
ABSNet	
Bloomberg	
Bureau of Labor Statistics	
Capital IQ	
Intex	
Named Plaintiffs' Holdings Data	
S&P/Case-Shiller Home Price Indices	
<a href="http://www.feldhutter.com/USCorporateBondMarketLiquidity_updated.txt">http://www.feldhutter.com/USCorporateBondMarketLiquidity_updated.txt</a>	July 26, 2017
<b>SEC Filings</b>	
Citigroup, Inc. Form 8-K	November 5, 2007
Morgan Stanley Form 8-K	November 7, 2007
UBS AG Form 6-K	December 10, 2007
DLJ Mortgage Capital, Inc. Form ABS-15G	February 14, 2012 - November 14, 2016
<b>Public Press</b>	
"New Century Files for Chapter 11 Bankruptcy," CNN Money, available at <a href="http://money.cnn.com/2007/04/02/news/companies/new_century_bankruptcy/">http://money.cnn.com/2007/04/02/news/companies/new_century_bankruptcy/</a> , accessed on March 13, 2014	April 3, 2007

Document Title, Bates Numbers	Document Date
Creswell, J. and V. Bajaj, “\$3.2 Billion Move by Bear Stearns to Rescue Fund,” The New York Times, available at <a href="http://www.nytimes.com/2007/06/23/business/23bond.html?_r=0&amp;pagewanted=print">http://www.nytimes.com/2007/06/23/business/23bond.html?_r=0&amp;pagewanted=print</a> , accessed on March 13, 2014	June 23, 2007
“Announcement: Moody’s Downgrades Subprime First-Lien RMBS,” Moody’s Investor Service	July 10, 2007
“Various U.S. First-Lien Subprime RMBS Classes Downgraded,” PR Newswire, available at <a href="http://www.prnewswire.com/news-releases/various-us-first-lien-subprime-rmbs-classes-downgraded-52731227.html">http://www.prnewswire.com/news-releases/various-us-first-lien-subprime-rmbs-classes-downgraded-52731227.html</a> , accessed on March 13, 2014	July 13, 2007
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Aegis Asset Backed Securities Trust 2004-6 Mortgage Backed Notes, Prospectus Supplement (to Prospectus dated October 21, 2004)	December 8, 2004
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<b>Document Title, Bates Numbers</b>	<b>Document Date</b>
Aegis Asset Backed Securities Trust 2005-1 Mortgage Backed Notes, Prospectus Supplement (to Prospectus dated October 21, 2004)	February 16, 2005
Aegis Asset Backed Securities Trust 2005-3 Mortgage Backed Notes, Prospectus Supplement (to Prospectus dated June 10, 2005)	June 28, 2005
Accredited Mortgage Loan Trust 2004-2 Asset-Backed Notes, Prospectus Supplement (to Prospectus dated May 14, 2004)	May 14, 2004
Accredited Mortgage Loan Trust 2005-3 Asset-Backed Notes, Prospectus Supplement (to Prospectus dated June 14, 2004)	August 22, 2005
GreenPoint Home Equity Loan Trust 2004-2 Home Equity Loan Asset-Backed Notes, Prospectus Supplement (to Prospectus dated April 28, 2004)	April 28, 2004
GreenPoint Home Equity Loan Trust 2004-3 Home Equity Loan Asset-Backed Notes, Prospectus Supplement (to Prospectus dated April 28, 2004)	June 25, 2004
Home Equity Mortgage Trust 2006-2 Asset-Back Notes, Prospectus Supplement (to Prospectus dated April 5, 2006)	April 26, 2006
Homebanc Mortgage Trust 2004-1 Mortgage-Backed Notes, Prospectus Supplement (to Prospectus dated May 14, 2004)	July 29, 2004
Homebanc Mortgage Trust 2004-2 Mortgage-Backed Notes, Prospectus Supplement (to Prospectus dated May 14, 2004)	October 27, 2004
Homebanc Mortgage Trust 2005-1 Mortgage-Backed Notes, Prospectus Supplement (to Prospectus dated February 16, 2005)	February 16, 2005
Homebanc Mortgage Trust 2005-3 Mortgage-Backed Notes, Prospectus Supplement (to Prospectus dated February 16, 2005)	May 23, 2005
Homebanc Mortgage Trust 2005-4 Mortgage-Backed Notes, Prospectus Supplement (to Prospectus dated February 16, 2005)	August 25, 2005
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**Document Title, Bates Numbers**

**Document Date**

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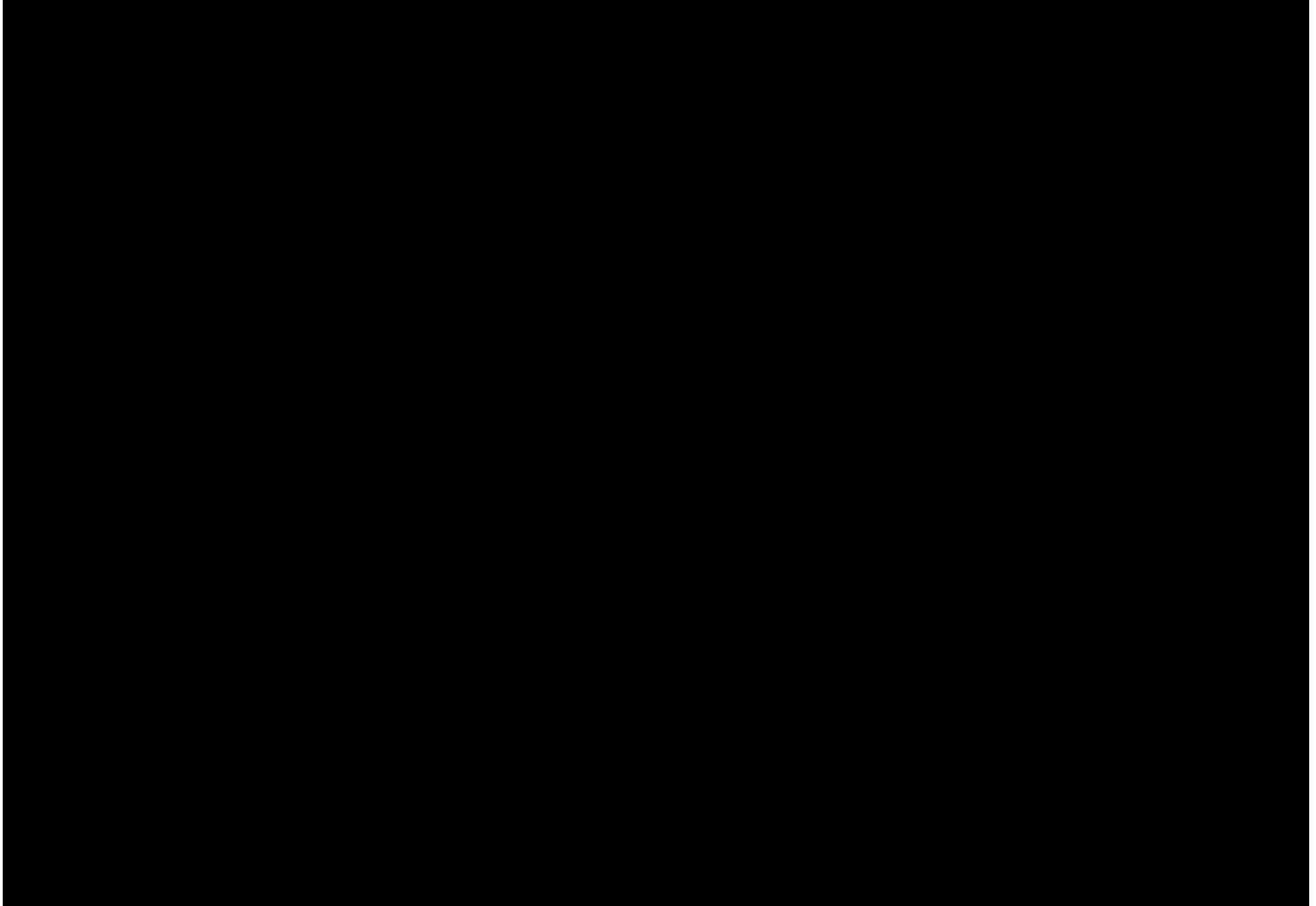
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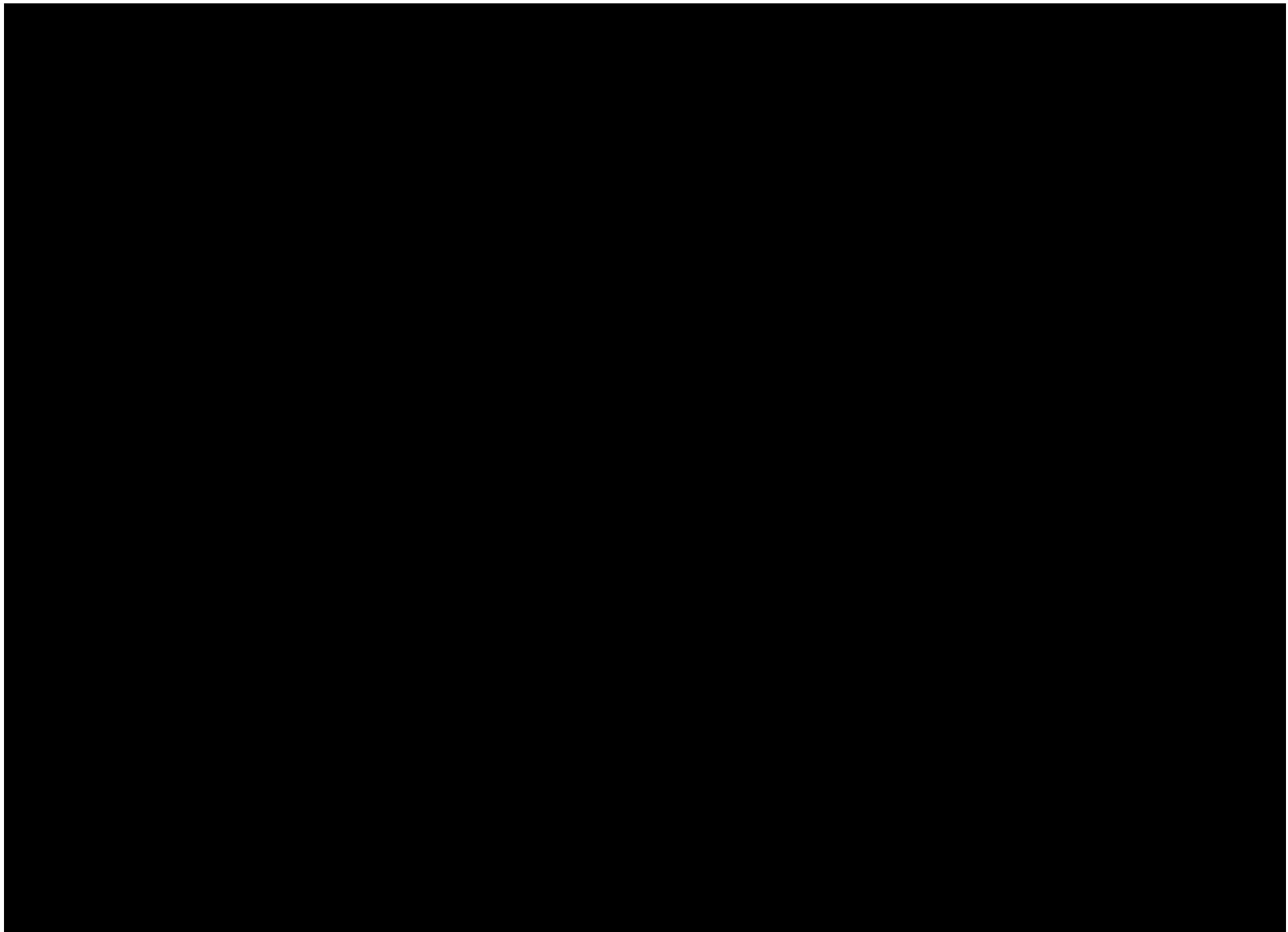
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*And all other documents listed in report and schedules.*

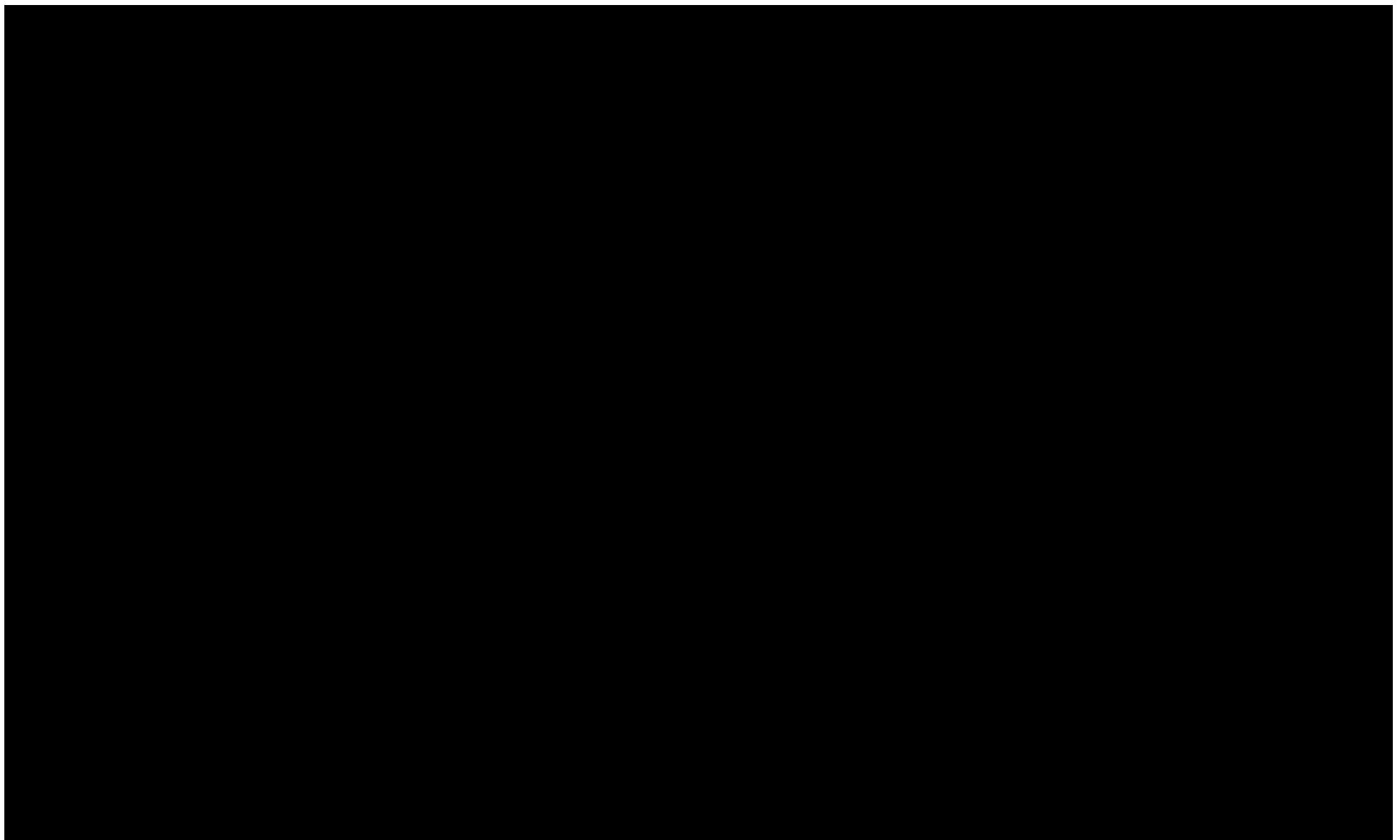
**Exhibit 4**



**Exhibit 4**



**Exhibit 4**



## Exhibit 5

### IRWHE 2005-1<sup>[1]</sup> IDC Pricing Example

Tranche <sup>[2]</sup>	IDC Price as of 7/13/17
1-A	\$97.44
M-1	\$100.92
M-2	\$100.67
B-1	\$100.55
B-2	\$92.16
B-3	\$62.54

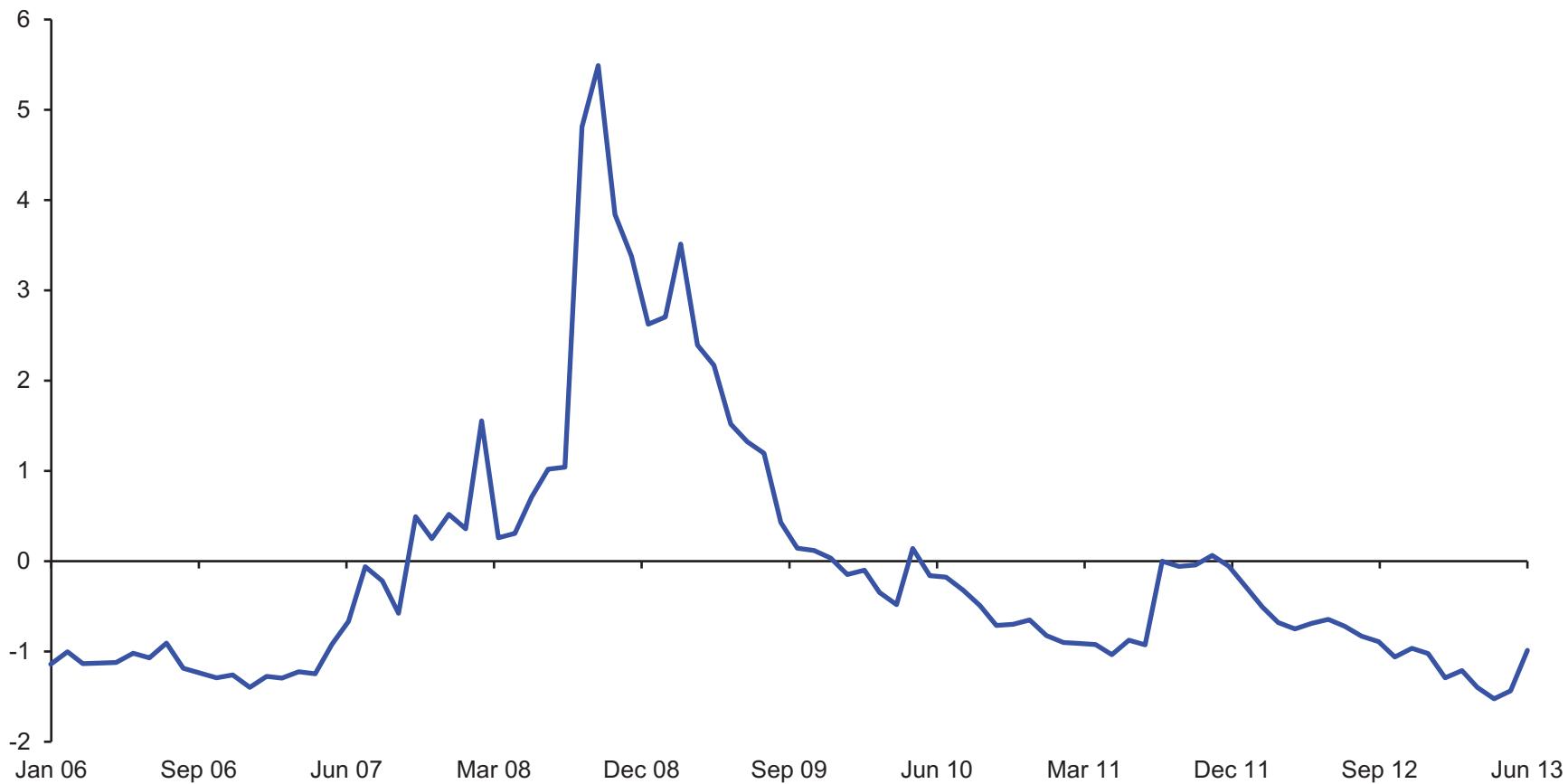
Source: Capital IQ; Prospectus Supplement

Note:

[1] Only Group 1 notes and subordinate notes are shown.  
Thus Group 2 notes, which include those from tranches 2-A-1, 2-A-2, and 2-A-3, are not shown.

[2] Tranches in this exhibit are listed in senior-subordinate order, meaning that each tranche listed below another tranche is subordinate to that tranche, e.g., M-1 is subordinate to 1-A, M-2 is subordinate to M-1, and so on.

**Exhibit 6**  
**Monthly Market Illiquidity of U.S. Corporate Bonds**  
January 2006 – June 2013



Source: Dick-Nielsen, J., Feldhütter, P. and Lando, D. (2012), "Corporate Bond Liquidity Before and After the Onset of the Subprime Crisis," *Journal of Financial Economics*, 103, 471–492; [http://www.feldhutter.com/USCorporateBondMarketLiquidity\\_updated.txt](http://www.feldhutter.com/USCorporateBondMarketLiquidity_updated.txt)

Note: The monthly market illiquidity measure was constructed by Dick-Nielsen, Feldhütter, and Lando (2012). A higher value corresponds to a more illiquid bond market during that month. For each month, the monthly market illiquidity measure is calculated as the weighted average of the illiquidity measure for each bond for the given month, where the weight of each bond is based on the amount outstanding for that bond. For each bond, the illiquidity measure for a given month is based on trading information about the bond during that month.

## Exhibit 7

### DLJ Mortgage Capital, Inc. Repurchase Rate

Reporting Period	Assets Subject of Demand for Repurchase		Assets That Were Repurchased or Replaced		
	Total Number	Principal Balance	Total Number	Principal Balance	Repurchase Rate <sup>[1]</sup>
1/1/09 - 12/31/11	3,787	\$312,034,868	14	\$3,656,650	1.17%
1/1/12 - 3/31/12	6,673	\$823,991,268	4	\$1,088,000	0.13%
4/1/12 - 6/30/12	7,297	\$919,196,205	38	\$2,915,878	0.32%
7/1/12 - 9/30/12	6,684	\$990,677,356	53	\$4,906,948	0.50%
10/1/12 - 12/31/12	7,653	\$1,256,814,344	133	\$21,478,604	1.71%
1/1/13 - 3/31/13	8,783	\$1,377,269,906	43	\$2,866,000	0.21%
4/1/13 - 6/30/13	7,009	\$1,024,421,777	52	\$5,629,848	0.55%
7/1/13 - 9/30/13	5,773	\$899,046,733	0	\$0	0.00%
10/1/13 - 12/31/13	7,764	\$1,053,284,134	25	\$5,969,450	0.57%
1/1/14 - 3/31/14	8,000	\$1,070,883,653	59	\$4,378,897	0.41%
4/1/14 - 6/30/14	12,379	\$1,385,180,749	0	\$0	0.00%
7/1/14 - 9/30/14	13,160	\$1,439,074,373	0	\$0	0.00%
10/1/14 - 12/31/14	16,811	\$2,423,398,269	0	\$0	0.00%
1/1/15 - 3/31/15	16,811	\$2,423,398,269	0	\$0	0.00%
4/1/15 - 6/30/15	16,811	\$2,423,398,269	0	\$0	0.00%
7/1/15 - 9/30/15	16,811	\$2,423,398,269	0	\$0	0.00%
10/1/15 - 12/31/15	15,986	\$2,297,378,107	0	\$0	0.00%
1/1/16 - 3/31/16	15,986	\$2,297,378,107	0	\$0	0.00%
4/1/16 - 6/30/16	15,986	\$2,297,378,107	0	\$0	0.00%
7/1/16 - 9/30/16	15,987	\$2,298,212,838	0	\$0	0.00%
10/1/16 - 12/31/16	15,988	\$2,298,600,838	0	\$0	0.00%
1/1/17 - 3/31/17	15,989	\$2,299,720,538	0	\$0	0.00%

Source: DLJ Mortgage Capital, Inc., Form ABS-15G,02/14/12; DLJ Mortgage Capital, Inc., Form ABS-15G,05/15/12; DLJ Mortgage Capital, Inc., Form ABS-15G,07/09/12; DLJ Mortgage Capital, Inc., Form ABS-15G,08/14/12; DLJ Mortgage Capital, Inc., Form ABS-15G,11/14/12; DLJ Mortgage Capital, Inc., Form ABS-15G,02/14/13; DLJ Mortgage Capital, Inc., Form ABS-15G,05/15/13; DLJ Mortgage Capital, Inc., Form ABS-15G,08/14/13; DLJ Mortgage Capital, Inc., Form ABS-15G,11/14/13; DLJ Mortgage Capital, Inc., Form ABS-15G,02/14/14; DLJ Mortgage Capital, Inc., Form ABS-15G,05/15/14; DLJ Mortgage Capital, Inc., Form ABS-15G,08/14/14; DLJ Mortgage Capital, Inc., Form ABS-15G,11/14/14; DLJ Mortgage Capital, Inc., Form ABS-15G,02/13/15; DLJ Mortgage Capital, Inc., Form ABS-15G,05/15/15; DLJ Mortgage Capital, Inc., Form ABS-15G,08/14/15; DLJ Mortgage Capital, Inc., Form ABS-15G,11/13/15; DLJ Mortgage Capital, Inc., Form ABS-15G,02/12/16; DLJ Mortgage Capital, Inc., Form ABS-15G,05/13/16; DLJ Mortgage Capital, Inc., Form ABS-15G,08/15/16; DLJ Mortgage Capital, Inc., Form ABS-15G,11/14/16; DLJ Mortgage Capital, Inc., Form ABS-15G,2/14/17; DLJ Mortgage Capital, Inc., Form ABS-15G,5/15/17

Note: Assets that were subject to demand for repurchase include only assets where a demand was made during or prior to the reporting period for which DLJ Mortgage Capital, Inc. had not yet completed their initial investigation and assigned such assets to one of the other categories (repurchased or replaced, pending repurchase or replacement, in dispute, withdrawn, rejected). Assets that were repurchased include that were previously liquidated and for which a make-whole payment was made in lieu of repurchase.

[1] Replaced repurchase rate is the principal balance of assets that were repurchased or replaced divided by the principal balance of assets subject of demand for repurchase.

## Exhibit 8

### U.S. Bank Putback Actions

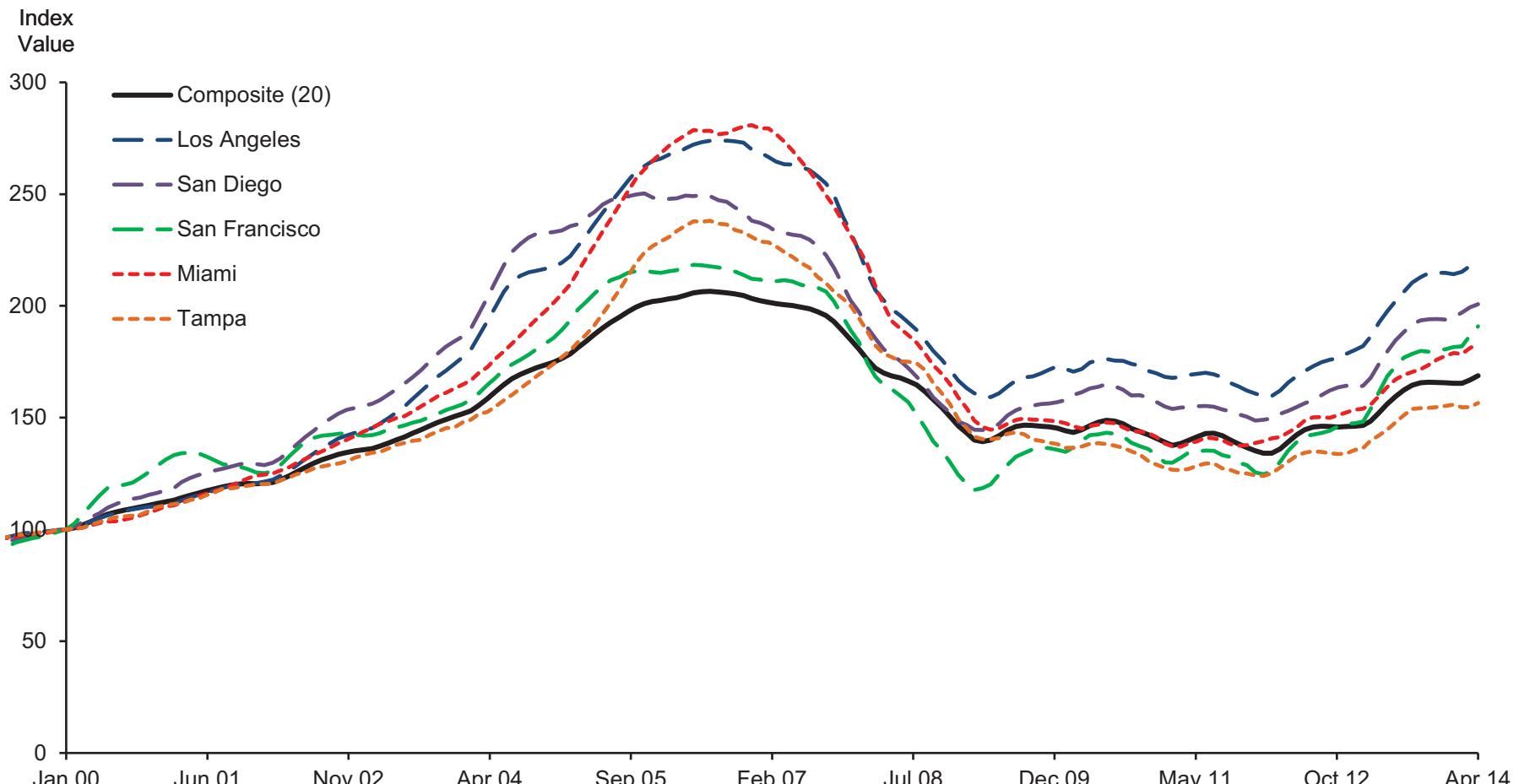
Case Name	Covered Trust(s)	Court	Docket No.	Date Filed	Case Status
1. Lehman XS Trust, Series 2006-GP2, by U.S. Bank Nat'l Ass'n v. GreenPoint Mortgage Funding Inc.	LXS 2006-GP2 LXS 2006-GP3 LXS 2006-GP4	S.D.N.Y.	12-cv-07935	10/24/12	Dismissed
2. Citigroup Mortgage Loan Trust 2007-AMC3, by U.S. Bank, Nat'l Ass'n v. Citigroup Global Markets Realty Corp.	CMLTI 2007-AMC3	S.D.N.Y.	13-cv-02843	4/30/13	Stayed
3. Home Equity Asset Trust 2007-1, by U.S. Bank Nat'l Ass'n v. DLJ Mortgage Capital Inc.	HEAT 2007-1	N.Y. Sup. Ct.	651174/2013	4/2/13	Active
4. U.S. Bank Nat'l Ass'n v. DLJ Mortgage Capital Inc.	HEAT 2007-2	N.Y. Sup. Ct.	650369/2013	2/1/13	Active
5. U.S. Bank Nat'l Ass'n v. DLJ Mortgage Capital Inc.	HEAT 2007-3	N.Y. Sup. Ct.	653787/2012	10/30/12	Active
				See also 156016/2012 (case consolidated) 651563/2013	
6. Home Equity Mortgage Trust Series 2006-5, by U.S. Bank National Association v. DLJ Mortgage Capital, Inc. et al.	HEMT 2006-5	N.Y. Sup. Ct.	13-cv-04707	4/30/13	Restored to Active Status
7. Lehman XS Trust, Series 2006-4N, by U.S. Bank Nat'l Ass'n v. GreenPoint Mortgage Funding Inc.	LXS 2006-4N	S.D.N.Y.	654403/2012	12/18/12	Active
8. Merrill Lynch Mortgage Investors Trust, Series 2006-RM4, Merrill Lynch Mortgage Investors Trust, Series 2006-RM5 v. Merrill Lynch Mortgage Lending, Inc., et al.	MLMI 2006-RM4 MLMI 2006-RM5	N.Y. Sup. Ct.	652612/2012	7/27/12	Active
9. Morgan Stanley Mortgage Loan Trust 2006-10SL and Mortgage Pass-Through Certificates, Series 2006-10SL v. Morgan Stanley Mortgage Capital Holdings LLC	MSM 2006-10SL	N.Y. Sup. Ct.	650579/2012	2/29/12	Active
10. Morgan Stanley Mortgage Loan Trust 2006-4SL and Mortgage Pass-Through Certificates, Series 2006-4SL v. Morgan Stanley Mortgage Capital Inc.	MSM 2006-4SL	N.Y. Sup. Ct.	650339/2013	1/30/13	Active
11. U.S. Bank National Association v. Morgan Stanley Mortgage Capital Holdings LLC, et al.	MSM 2007-2AX	N.Y. Sup. Ct.		See also 777000/2015 (related docket)	
12. U.S. Bank National Association v. Countrywide Home Loans, Inc., et al.	HVMLT 2005-10	N.Y. Sup. Ct.	652388/2011	8/29/11	Stayed
13. U.S. Bank National Association v. DLJ Mortgage Capital Inc.	CSMC 2007-NC1	N.Y. Sup. Ct.	652699/2013	7/31/13	Active
14. US Bank Nat'l Ass'n v. DLJ Mortgage Capital Inc.	ABSHE 2006-HE7	N.Y. Sup. Ct.	654147/2012	11/29/12	Case dismissed without prejudice to refile pursuant to CPLR 205(a).
15. U.S. Bank Nat'l Ass'n v. GreenPoint Mortgage Funding Inc.	GPMF 2006-HE1	N.Y. Sup. Ct.	600352/2009	4/22/09	Active

Source: Case Dockets as of July 25, 2017

## Exhibit 9

### Select S&P Case-Shiller Non-Seasonally Adjusted Home Price Indices

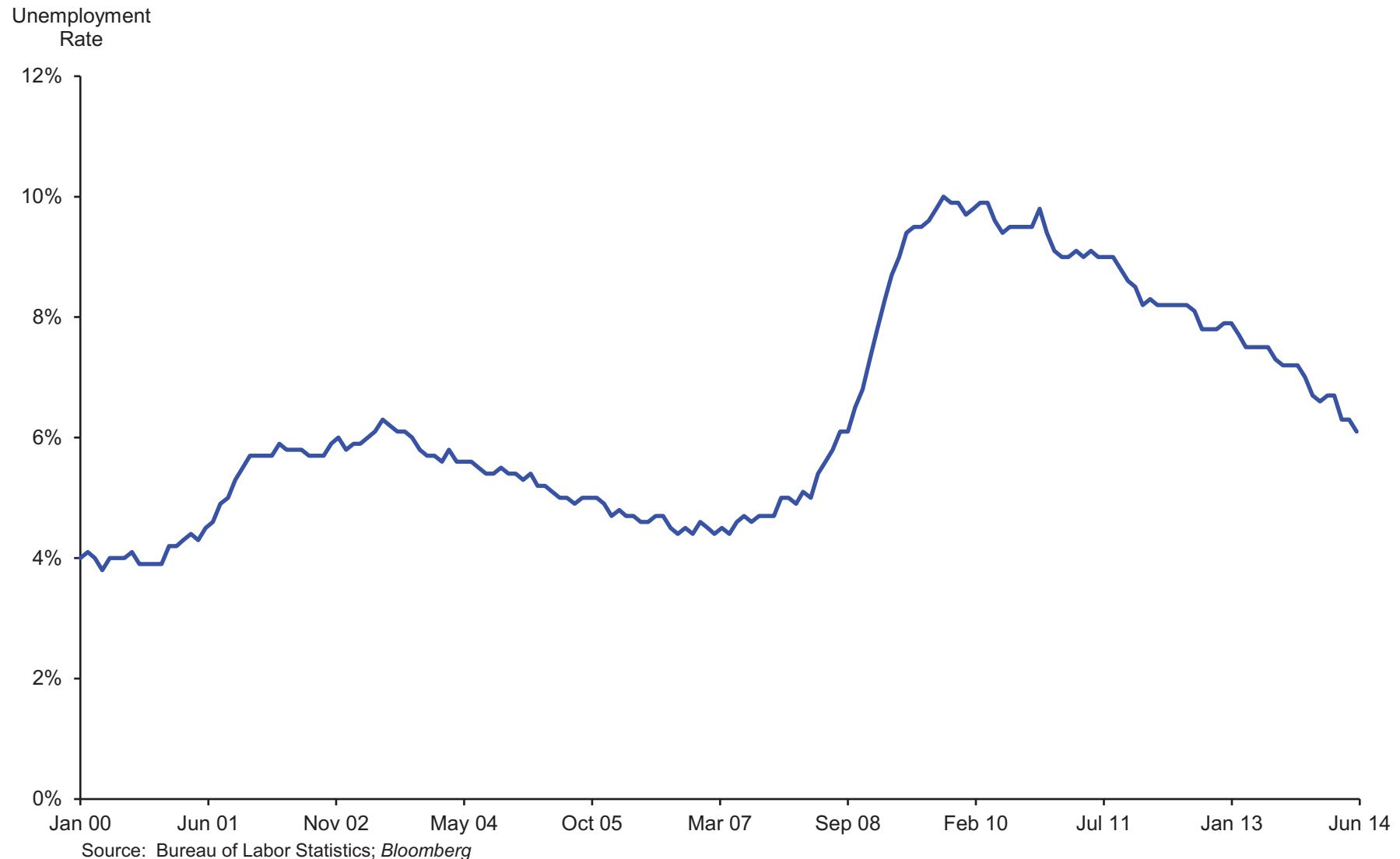
January 2000 – April 2014



Source: S&P/Case-Shiller Home Price Indices; Bloomberg

Note: Data are monthly and indexed to 100 at January 2000. The S&P/Case-Shiller Home Price Indices are value-weighted based on a repeat-sales methodology in 20 Metropolitan Statistical Areas.

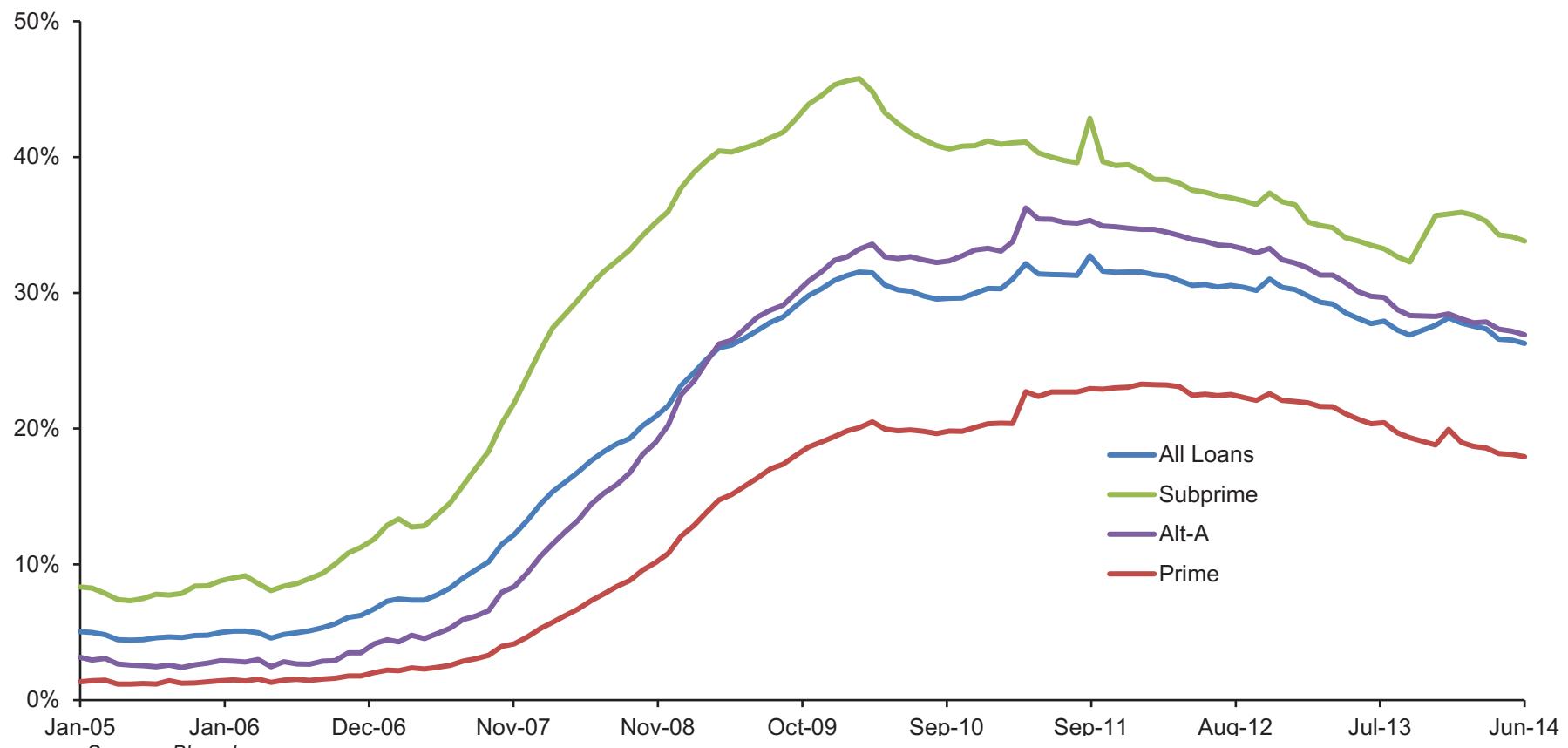
**Exhibit 10**  
**Seasonally Adjusted U.S. Unemployment Rate**  
January 2001 – June 2014



## Exhibit 11

### Percentage of U.S. Residential Loans Reported 30+ Days Delinquent

January 2005 – June 2014



Source: Bloomberg

Note: Bloomberg states that the percentage is based on "U.S. residential loans within the Bloomberg non-agency database that have reported to be 30 days delinquent or more (30[+], REO, or foreclosure) as a percentage of loans that provided delinquency figures within the reported month... The Bloomberg non-agency loan database is comprised of over 12 million active loans."

**Exhibit 12A**  
**Summary of Loan Groups**

Trust Name	Group <sup>[1]</sup>	Asset Type <sup>[2]</sup>	Loan Purpose												
			Credit Score <sup>[3]</sup>	LTV <sup>[4]</sup>	CLTV <sup>[4]</sup>	Average Balance <sup>[4]</sup>	% Purchase <sup>[4]</sup>	% Cash Out Refinance <sup>[4]</sup>	% Rate/Term Refinance <sup>[4]</sup>	% Full Documentation <sup>[4]</sup>	% Owner Occupied <sup>[4]</sup>	% Single Family <sup>[4]</sup>	% Prepayment Penalty <sup>[3]</sup>	% Negative Amortization <sup>[3]</sup>	% ARM <sup>[3]</sup>
AABST 2004-6	1	Subprime	613	80%	-	\$173,451	28%	71%	1%	60%	94%	76%	0%	0%	83%
AABST 2004-6	2	Subprime	618	78%	-	\$122,237	29%	70%	1%	73%	97%	78%	0%	0%	84%
AABST 2005-1	1	Subprime	619	79%	-	\$138,898	29%	70%	1%	63%	96%	76%	38%	0%	85%
AABST 2005-1	2	Subprime	617	79%	-	\$127,574	31%	68%	1%	66%	96%	78%	40%	0%	85%
AABST 2005-3	1	Subprime	611	80%	-	\$122,250	38%	61%	1%	64%	96%	76%	43%	0%	85%
ACCR 2004-2 <sup>[5]</sup>	1	Subprime	-	78%	-	\$156,065	44%	52%	4%	82%	97%	75%	100%	100%	3%
ACCR 2004-2 <sup>[5]</sup>	2	Subprime	-	77%	-	\$184,210	37%	57%	6%	80%	97%	77%	100%	0%	2%
ACCR 2005-3	1	Subprime	635	-	78%	\$160,117	42%	56%	2%	62%	96%	72%	0%	0%	73%
ACCR 2005-3	2	Subprime	635	-	77%	\$181,763	36%	61%	2%	63%	96%	75%	0%	0%	70%
BAYRT 2005-E <sup>[5][6]</sup>	1	Scratch and Dent	-	-	-	-	-	-	-	-	-	-	23%	1%	32%
BAYRT 2005-E <sup>[5][6]</sup>	2	Scratch and Dent	-	-	-	-	-	-	-	-	-	-	49%	5%	100%
BAYV 2005-A <sup>[5][6]</sup>	1	Scratch and Dent	-	-	-	-	-	-	-	-	-	-	14%	0%	0%
BAYV 2005-A <sup>[5][6]</sup>	2	Scratch and Dent	-	-	-	-	-	-	-	-	-	-	35%	3%	99%
GPHE 2004-2 <sup>[7]</sup>	1	HELOC	-	-	85%	\$48,932	35%	57%	7%	31%	85%	65%	-	-	-
GPHE 2004-3 <sup>[7]</sup>	1	HELOC	-	-	85%	\$52,002	36%	56%	8%	29%	85%	62%	-	-	-
HEMT 2006-2	1	Second Lien	677	-	95%	\$389,679	76%	18%	6%	25%	90%	65%	100%	0%	0%
HEMT 2006-2	2	Second Lien	711	-	86%	\$75,313	37%	55%	5%	32%	91%	64%	100%	0%	100%
HMBT 2004-1	1	Alt-A	727	78%	88%	\$182,700	72%	14%	13%	80%	88%	34%	0%	0%	100%
HMBT 2004-1	2	Alt-A	727	78%	85%	\$238,495	69%	15%	16%	78%	75%	42%	0%	0%	100%
HMBT 2004-2	1	Alt-A	725	78%	88%	\$211,318	81%	8%	11%	82%	81%	37%	0%	0%	100%
HMBT 2005-1	1	Alt-A	725	77%	86%	\$229,480	73%	13%	14%	80%	78%	36%	0%	0%	100%
HMBT 2005-3	1	Prime	726	79%	86%	\$200,585	71%	13%	15%	71%	76%	33%	0%	0%	100%
HMBT 2005-4	1	Prime	727	82%	86%	\$215,293	72%	13%	15%	67%	78%	33%	0%	0%	100%
HMBT 2005-5	1	Prime	728	82%	86%	\$213,281	74%	13%	14%	65%	77%	32%	0%	0%	100%
HMBT 2006-2	1	Prime	731	83%	88%	\$209,041	71%	10%	14%	60%	79%	30%	0%	0%	100%
IRWHE 2004-1 <sup>[8][9]</sup>	1	HELOC	-	-	102%	\$50,336	-	-	-	-	99%	74%	-	-	-
IRWHE 2004-1 <sup>[8][9]</sup>	2	HELOC	-	-	113%	\$60,407	-	-	-	-	100%	73%	-	-	-
IRWHE 2005-1 <sup>[7][9]</sup>	1	High LTV	-	-	108%	\$60,896	-	-	-	-	100%	67%	-	-	-
IRWHE 2005-1 <sup>[7][9]</sup>	2	High LTV	-	-	103%	\$53,730	-	-	-	-	100%	78%	-	-	-
LABS 2005-1 <sup>[5]</sup>	1	HELOC	-	-	85%	\$50,363	35%	57%	8%	30%	80%	65%	0%	0%	100%
MLMI 2005-A9	1	Prime	745	74%	-	\$482,884	49%	19%	32%	87%	87%	64%	2%	0%	100%
MLMI 2005-A9	2	Prime	741	70%	-	\$594,847	56%	20%	24%	49%	87%	69%	10%	0%	100%
MLMI 2005-A9	3	Prime	736	75%	-	\$219,969	66%	20%	14%	51%	76%	59%	24%	0%	100%
MLMI 2005-A9	4	Prime	740	75%	-	\$450,525	60%	19%	20%	38%	94%	61%	18%	0%	100%
MLMI 2005-A9	5	Prime	745	64%	-	\$911,579	35%	37%	28%	85%	93%	70%	0%	0%	100%
NYMT 2005-2	1	Alt-A	736	70%	-	\$436,816	65%	28%	7%	65%	79%	47%	0%	0%	100%
TMST 2007-1	1	Prime	741	70%	-	\$607,970	45%	38%	17%	77%	54%	51%	5%	0%	100%
TMST 2007-1	2	Prime	741	69%	-	\$868,336	48%	33%	19%	77%	63%	55%	3%	0%	100%
TMST 2007-1	3	Prime	747	69%	-	\$810,552	45%	34%	21%	85%	72%	59%	2%	0%	100%

## Exhibit 12A

### Summary of Loan Groups

Trust Name	Group <sup>[1]</sup>	Asset Type <sup>[2]</sup>	Loan Purpose												
			Credit Score <sup>[3]</sup>	LTV <sup>[4]</sup>	CLTV <sup>[4]</sup>	Average Loan Balance <sup>[4]</sup>	% Purchase <sup>[4]</sup>	% Cash Out Refinance <sup>[4]</sup>	% Rate/Term Refinance <sup>[4]</sup>	% Full Documentation <sup>[4]</sup>	% Owner Occupied <sup>[4]</sup>	% Single Family <sup>[4]</sup>	% Prepayment Penalty <sup>[3]</sup>	% Negative Amortization <sup>[3]</sup>	% ARM <sup>[3]</sup>
TMST 2007-2	1	Prime	752	59%	-	\$1,002,929	49%	28%	24%	87%	66%	60%	0%	1%	100%
TMST 2007-2	2	Prime	748	68%	-	\$1,001,726	48%	33%	19%	81%	69%	54%	0%	1%	100%
TMST 2007-2	3	Prime	751	68%	-	\$902,069	50%	34%	15%	88%	70%	57%	0%	0%	100%
TMST 2007-3	1	Prime	717	65%	-	\$2,732,877	29%	51%	20%	9%	88%	59%	22%	100%	100%
TMST 2007-3	2	Prime	737	66%	-	\$639,542	28%	46%	26%	82%	74%	66%	11%	0%	100%
TMST 2007-3	3	Prime	749	69%	-	\$938,932	50%	29%	21%	82%	64%	53%	4%	3%	100%
TMST 2007-3	4	Prime	748	70%	-	\$890,855	52%	31%	17%	86%	67%	54%	1%	0%	100%

Source: ABSNet Loan; ABSNet: Prospectus Supplements

Note: This analysis includes loans in the groups that collateralize or cross-collateralize the at-issue tranches. All averages and percentages (excluding original loan balance) are weighted by original loan balance. All values are based on loans with non-missing data in the relevant metric. Asset Type is recorded at the trust level.

[1] Groups for all trusts are obtained from prospectus supplements except for trusts BAYRT 2005-E and BAYV 2005-A which are obtained from ABSNet Loan.

[2] Asset Type is obtained from ABSNet.

[3] Credit Score, % Prepayment Penalty, % Negative Amortization, and % ARM values are obtained from ABSNet Loan.

[4] LTV, CLTV, Average Loan Balance, % Purchase, % Cash Out Refinance, % Rate/Term Refinance, % Full Documentation, % Owner Occupied, and % Single Family values are obtained from prospectus supplements.

[5] Credit scores are excluded for trusts ACCR 2004-2, BAYRT 2005-E, BAYV 2005-A, and LABS 2005-1 due to insufficient data.

[6] Prospectus supplements for trusts BAYRT 2005-E and BAYV 2005-A are not available.

[7] ABSNet Loan data are not available for trusts GPHE 2004-2, GPHE 2004-3, and IRWHE 2005-1.

[8] ABSNet Loan data are excluded for trust IRWHE 2004-1 due to insufficient data.

[9] % Purchase, % Cash Out Refinance, % Rate/Term Refinance, and % Full Documentation are not available in the Prospectus Supplements for IRWHE 2004-1 and IRWHE 2005-1.

## Exhibit 12B

### Comparison of Characteristics Across Loan Groups

<b>Documentation<sup>[1]</sup></b>	<b>Min</b>	<b>Max</b>
Full	8.7%	88.1%
Alt	0.0%	7.3%
Low	<0.1%	84.1%
None	0.0%	12.2%

<b>Purpose<sup>[1]</sup></b>	<b>Min</b>	<b>Max</b>
Purchase Loans	28.0%	81.3%
Rate/Term Refinances	1.0%	31.6%
Cash Out Refinances	8.2%	70.8%

<b>State<sup>[1]</sup></b>	<b>Min</b>	<b>Max</b>	<b>FICO<sup>[2]</sup></b>	<b>Min</b>	<b>Max</b>
California	0.0%	68.4%	<600	0.0%	43.3%
Florida	2.8%	57.9%	600–659	0.0%	41.1%
Georgia	0.1%	54.0%	660–680	2.8%	27.3%
New York	0.0%	45.7%	680–699	4.9%	23.3%
Massachusetts	0.0%	22.7%	700–719	3.2%	21.9%
Colorado	<0.1%	12.7%	720–739	1.8%	52.5%
New Jersey	0.0%	11.2%	740–759	1.0%	19.9%
Illinois	0.0%	9.3%	760–779	0.6%	35.0%
Arizona	0.0%	8.6%	780–799	0.2%	22.2%
North Carolina	0.3%	8.1%	> 799	0.0%	8.4%
Washington	0.0%	8.1%			
Pennsylvania	0.0%	7.4%			
Maryland	0.0%	7.3%			
Texas	0.0%	7.1%			
Ohio	0.0%	6.4%			
Michigan	0.0%	6.4%			
Virginia	0.0%	6.2%			
Nevada	0.0%	6.1%			
Connecticut	0.0%	5.5%			
Hawaii	0.0%	4.7%			

Source: ABSNet Loan; Prospectus Supplements

Note: Values are calculated as percentages of the aggregate principal balance of all loans within a corresponding group. The minimum and maximum percentages across the relevant loan groups are shown.

[1] Documentation, Purpose, and State are obtained from prospectus supplements for 23 trusts. Prospectus supplements for trusts BAYRT 2005-E and BAYV 2005-A are not available.

[2] FICO is obtained from ABSNet Loan for 17 trusts. ABSNet Loan data are not available for trusts GPHE 2004-2, GPHE 2004-3, and IRWHE 2005-1 and are insufficient for trusts ACCR 2004-2, BAYRT 2005-E, BAYV 2005-A , and LABS 2005-1 because more than half of the loans are missing FICO scores. Trust IRWHE 2004-1 is excluded due to insufficient data.

**Exhibit 13**  
**Original Balance of Loan Groups**  
By Origination Year and Quarter

Trust Name	Group	Pre-2000				2000				2001				2002				2003				2004				2005				2006				2007				2008				Total
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	100%				
AABST 2004-6	1	-	-	-	-	-	-	-	-	0%	0%	1%	31%	68%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%						
AABST 2004-6	2	-	-	-	-	-	-	-	-	0%	0%	1%	29%	71%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%							
AABST 2005-1	1	-	-	-	-	-	-	-	-	0%	1%	69%	30%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%							
AABST 2005-1	2	-	-	-	-	-	-	-	-	0%	1%	68%	30%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%							
AABST 2005-3	1	-	-	-	-	-	-	-	-	0%	-	0%	8%	92%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%							
ACCR 2004-2	1	-	-	-	-	-	-	-	-	0%	30%	70%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%							
ACCR 2004-2	2	0%	-	-	-	-	-	-	-	0%	26%	74%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%							
ACCR 2005-3	1	-	-	-	-	-	-	-	-	-	-	0%	61%	39%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%							
ACCR 2005-3	2	-	-	-	-	-	-	-	-	-	-	0%	59%	41%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%							
BAYRT 2005-E	1	20%	3%	6%	3%	1%	1%	1%	1%	2%	2%	5%	6%	15%	4%	6%	10%	6%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%										
BAYRT 2005-E	2	9%	0%	1%	4%	1%	1%	1%	1%	0%	1%	2%	3%	6%	9%	7%	7%	10%	13%	20%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	100%										
BAYV 2005-A	1	32%	2%	9%	7%	2%	2%	2%	2%	4%	4%	4%	4%	5%	4%	2%	3%	3%	3%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%										
BAYV 2005-A	2	9%	1%	2%	4%	1%	0%	0%	1%	4%	13%	6%	7%	4%	7%	3%	5%	8%	8%	6%	5%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%										
HEMT 2006-2	1	0%	0%	1%	7%	-	-	-	-	0%	0%	0%	0%	21%	52%	16%	2%	0%	0%	0%	0%	-	-	-	-	-	-	-	-	-	-	-	100%									
HEMT 2006-2	2	-	-	-	-	-	-	-	-	0%	0%	0%	0%	53%	22%	8%	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
HMBT 2004-1	1	-	-	-	-	-	-	-	-	0%	0%	97%	2%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%							
HMBT 2004-1	2	-	-	-	-	-	-	-	-	-	-	35%	64%	1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%							
HMBT 2004-2	1	-	-	-	-	-	-	-	-	-	-	1%	22%	67%	11%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
HMBT 2005-1	1	-	-	-	-	-	-	-	-	0%	0%	1%	19%	65%	15%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
HMBT 2005-3	1	-	-	-	-	-	-	-	-	0%	0%	0%	0%	66%	32%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
HMBT 2005-4	1	-	-	-	-	-	-	-	-	0%	0%	0%	0%	62%	38%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
HMBT 2005-5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	34%	66%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
HMBT 2006-2	1	-	0%	-	-	-	-	-	-	-	-	-	-	-	1%	36%	14%	24%	13%	12%	-	-	-	-	-	-	-	-	-	-	-	100%										
LABS 2005-1	1	1%	0%	-	0%	0%	1%	0%	2%	62%	35%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
MLMI 2005-A9	1	-	-	-	-	-	-	-	-	2%	-	3%	0%	3%	-	1%	11%	38%	41%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
MLMI 2005-A9	2	-	-	-	-	-	-	-	-	0%	-	0%	0%	1%	1%	18%	66%	14%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
MLMI 2005-A9	3	-	-	-	-	-	-	-	-	0%	-	-	-	-	0%	0%	24%	71%	5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
MLMI 2005-A9	4	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	20%	49%	31%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
MLMI 2005-A9	5	-	-	-	-	-	-	-	-	-	-	-	-	-	5%	60%	35%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
NYMT 2005-2	1	-	-	-	-	-	-	-	-	0%	-	2%	40%	57%	1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
TMST 2007-1	1	-	-	3%	4%	0%	1%	4%	5%	1%	3%	2%	1%	0%	0%	1%	-	1%	11%	60%	1%	-	-	-	-	-	-	-	-	-	-	100%										
TMST 2007-1	2	0%	-	0%	1%	1%	0%	2%	2%	0%	0%	1%	1%	-	-	-	-	-	1%	3%	76%	12%	-	-	-	-	-	-	-	-	-	100%										
TMST 2007-1	3	-	-	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	-	-	-	-	-	0%	1%	5%	80%	11%	-	-	-	-	-	-	-	-	-	100%									
TMST 2007-2	1	-	-	-	-	-	-	1%	-	1%	0%	2%	0%	-	-	-	-	1%	9%	19%	9%	24%	34%	-	-	-	-	-	-	-	-	-	100%									
TMST 2007-2	2	-	-	0%	0%	0%	1%	1%	1%	1%	0%	0%	1%	-	-	-	-	0%	1%	5%	3%	8%	77%	-	-	-	-	-	-	-	-	-	100%									
TMST 2007-2	3	-	-	-	-	1%	0%	0%	1%	2%	1%	0%	0%	1%	-	-	-	0%	1%	3%	3%	11%	76%	-	-	-	-	-	-	-	-	-	100%									
TMST 2007-3	1	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%								
TMST 2007-3	2	1%	0%	9%	21%	1%	0%	1%	0%	2%	5%	1%	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%									
TMST 2007-3	3	-	0%	1%	2%	0%	0%	1%	4%	2%	0%	3%	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%									
TMST 2007-3	4	-	0%	1%	3%	0%	0%	-	1%	2%	0%	0%	1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%									

Source: ABSNet Loan

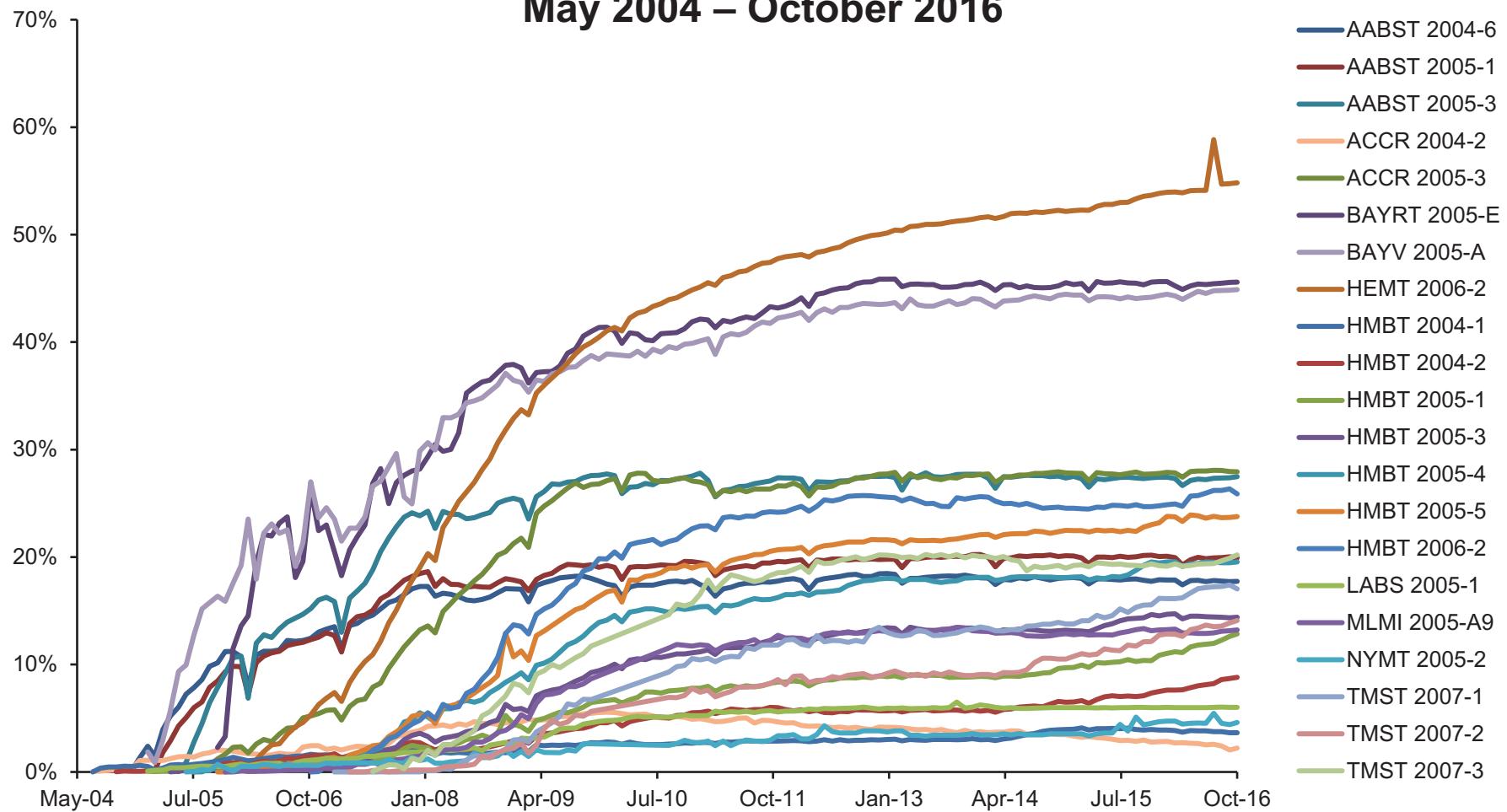
Note: Analysis is based on data that are available for 21 trusts. ABSNet Loan data are not available for trusts GPHE 2004-2, GPHE 2004-3, and IRWHE 2005-1 and are excluded for IRWHE 2004-1 due to insufficient data. All values are based on loans with non-missing original loan balance and origination date data. Dashes represent zero percent. Figures represented by "0%" are greater than zero but less than 0.5%.

For group 1 of trust BAYRT 2005-E, the second quarter of 2015 had .006% of the total trust balance.

## Exhibit 14A

### Balance Weighted Delinquency Percentages

#### May 2004 – October 2016



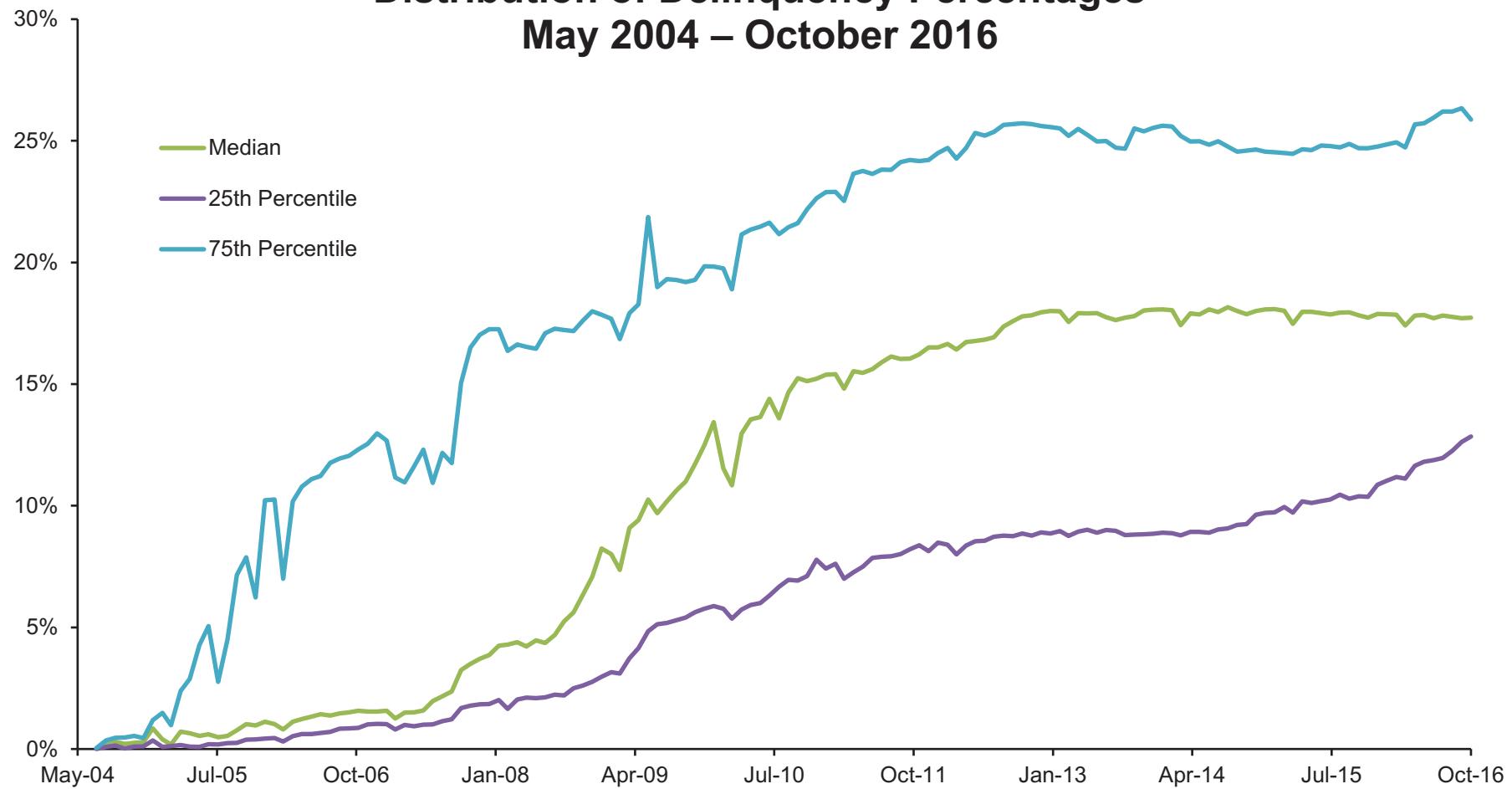
Source: ABSNet Loan; ABSNet BlackBox

Note: Data are available for 21 trusts at issue. Delinquency percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the trusts at issue. The data for BAYV 2005-A at September 2007 and February – March 2010, LABS 2005-1 at October 2005, and NYMT 2005-2 at June 2009 are excluded from this chart. ABSNet Loan data are not available for trusts GPHE 2004-2, GPHE 2004-3, and IRWHE 2005-1 and are excluded for IRWHE 2004-1 due to insufficient data.

## Exhibit 14B

### Distribution of Delinquency Percentages

#### May 2004 – October 2016

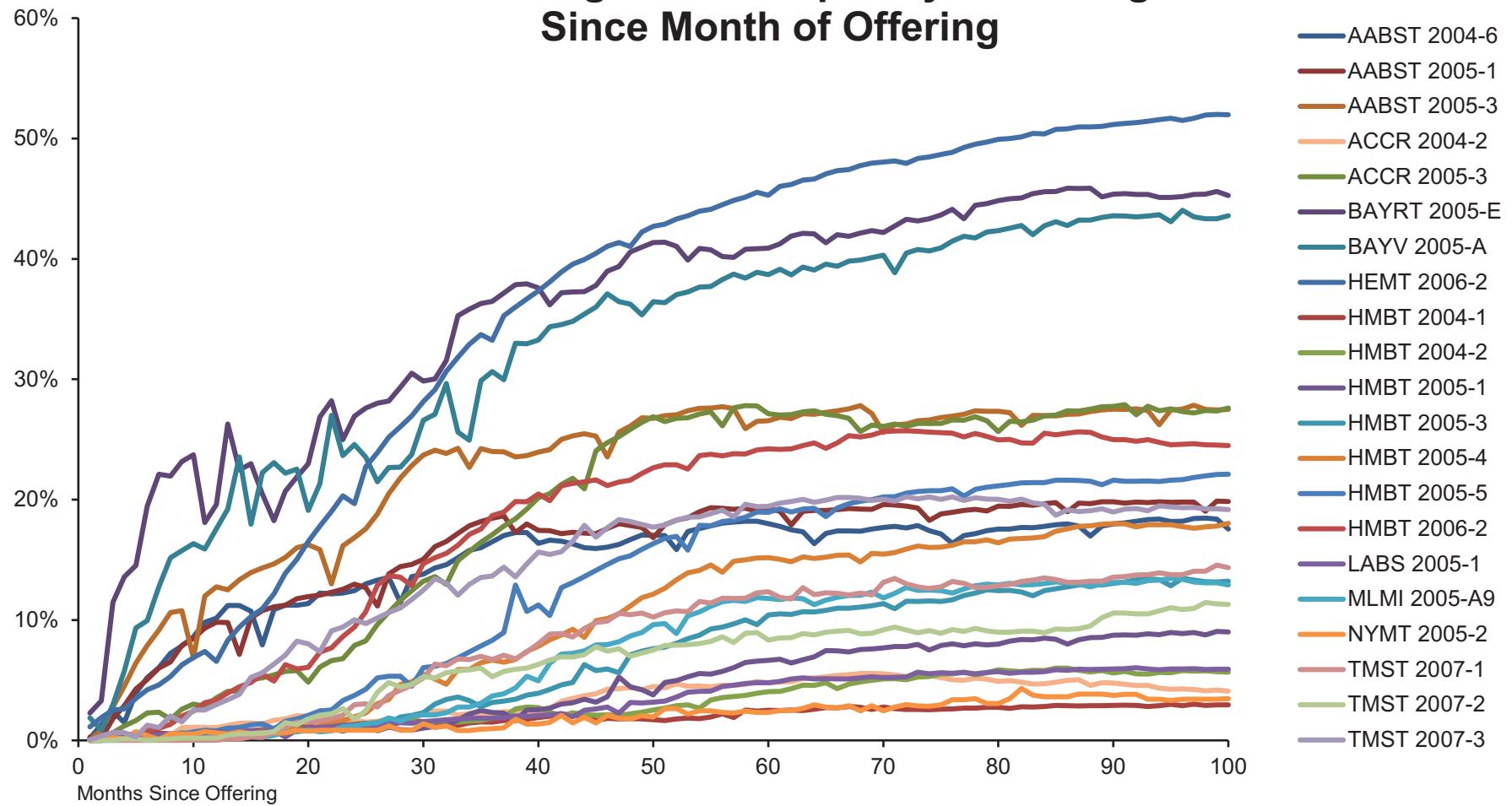


Source: ABSNet Loan; ABSNet BlackBox

Note: Data are available for 21 trusts at issue. The median, 25th percentile, and 75th percentile are calculated across the 21 trusts at issue. Delinquency percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the trusts at issue. The data for BAYV 2005-A at September 2007 and February – March 2010, LABS 2005-1 at October 2005, and NYMT 2005-2 at June 2009 are excluded from this chart. ABSNet Loan data are not available for trusts GPHE 2004-2, GPHE 2004-3, and IRWHE 2005-1 and are excluded for IRWHE 2004-1 due to insufficient data.

## Exhibit 14C

### Balance Weighted Delinquency Percentages Since Month of Offering

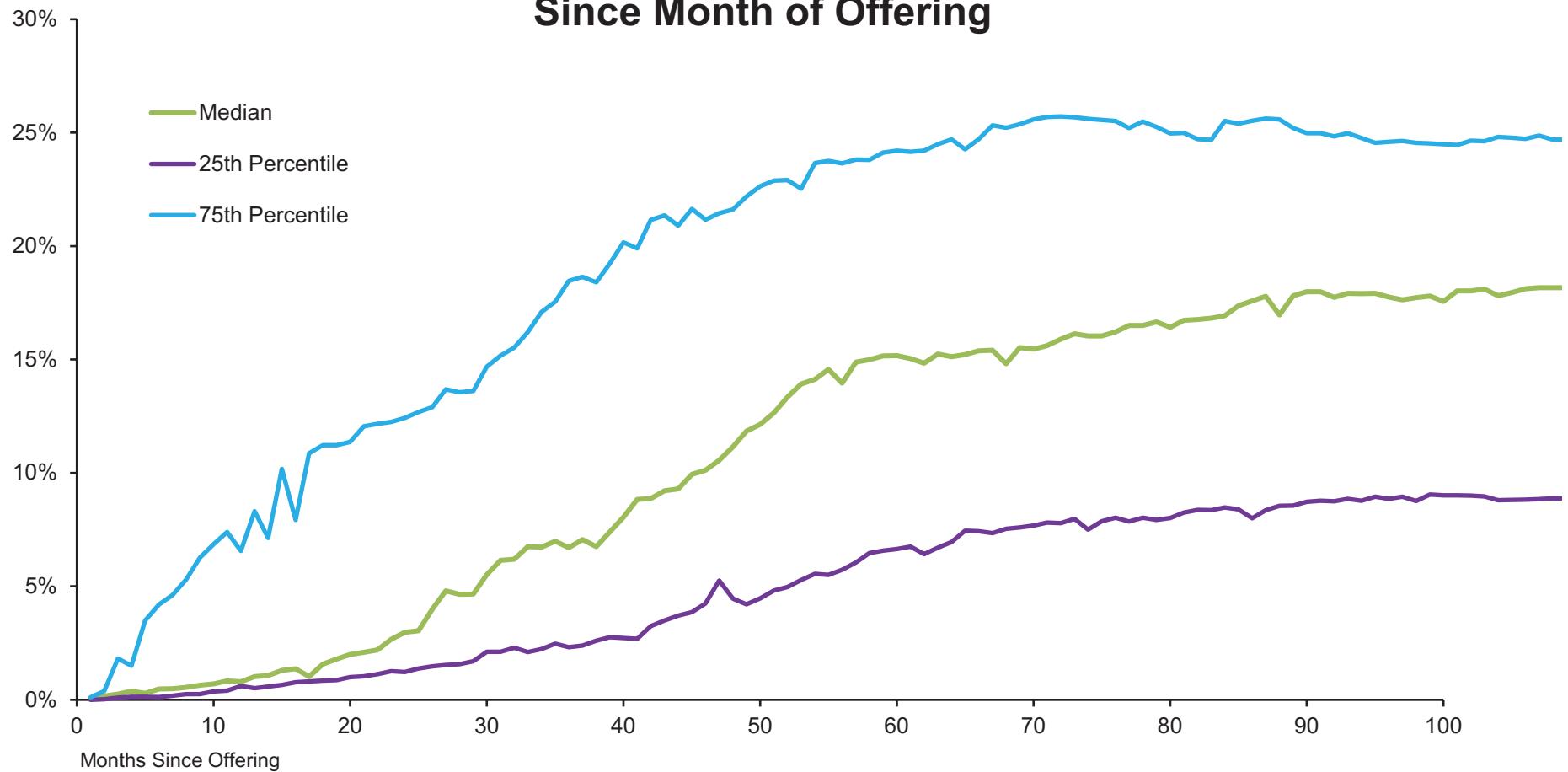


Source: ABSNet Loan; ABSNet BlackBox

Note: Data are available for 21 trusts at issue. Delinquency percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the trusts at issue. The securitization dates for the trusts range from May 2004 to July 2007. The data for BAYV 2005-A at September 2007 and February – March 2010, LABS 2005-1 at October 2005, and NYMT 2005-2 at June 2009 are excluded from this chart. ABSNet Loan data are not available for trusts GPHE 2004-2, GPHE 2004-3, and IRWHE 2005-1 and are excluded for IRWHE 2004-1 due to insufficient data.

## Exhibit 14D

### Distribution of Delinquency Percentages Since Month of Offering



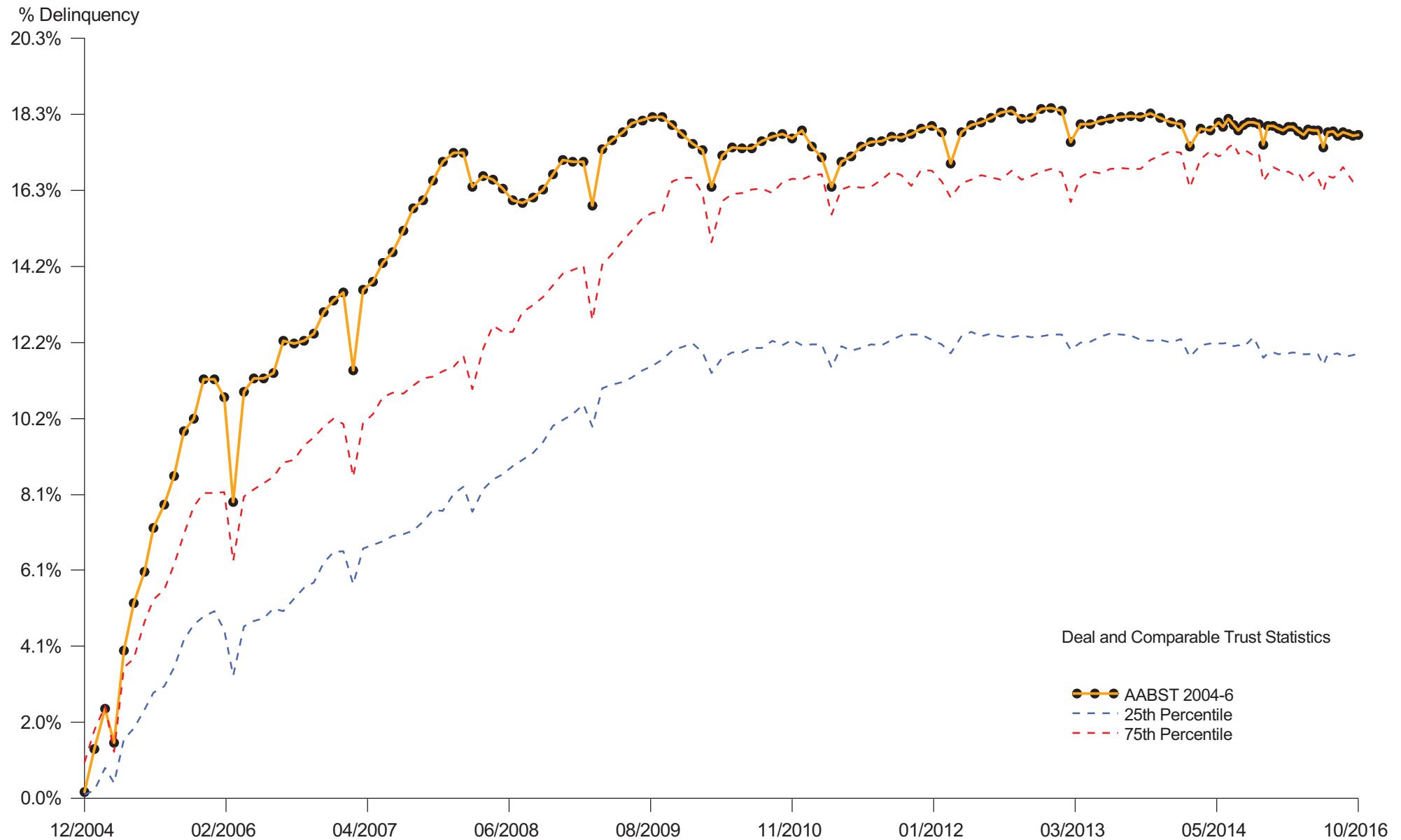
Source: ABSNet Loan

Note: Data are available for 21 trusts at issue. The median, 25th percentile, and 75th percentile are calculated across the 21 trusts at issue. Delinquency percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the trusts at issue. The securitization dates for the trusts range from June 2004 to July 2007. The data for BAYV 2005-A at September 2007 and February – March 2010, LABS 2005-1 at October 2005, and NYMT 2005-2 at June 2009 are excluded from this chart. ABSNet Loan data are not available for trusts GPHE 2004-2, GPHE 2004-3, and IRWHE 2005-1 and are excluded for IRWHE 2004-1 due to insufficient data.

**Exhibit 15**

# AABST 2004-6 Delinquency Percentage

## December 2004 – October 2016



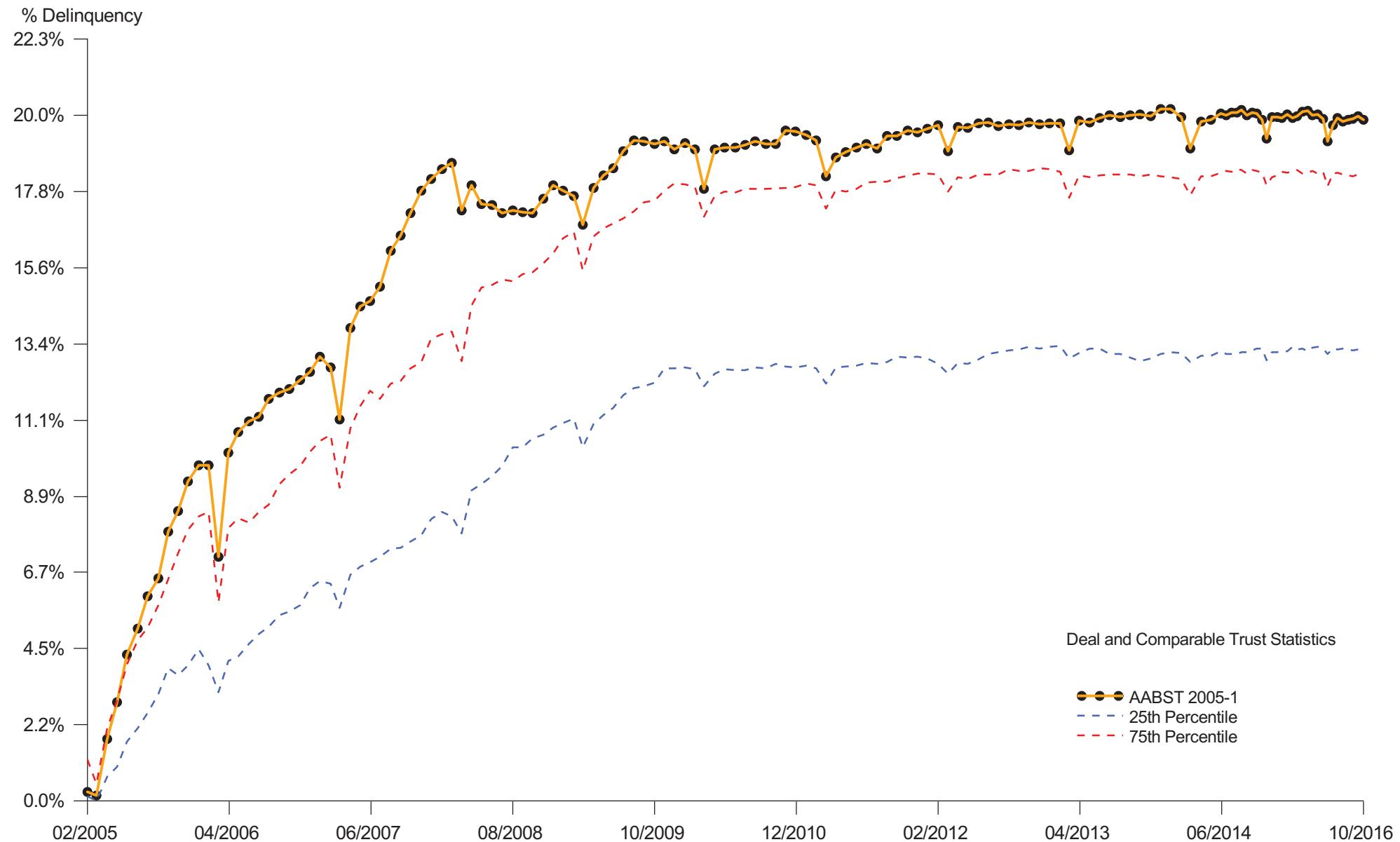
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 54 deals issued within 1 month of the closing date of AABST 2004-6 (Subprime) that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Bear Stearns & Co. Inc. or its subsidiaries.

**Exhibit 15**

# AABST 2005-1 Delinquency Percentage

## February 2005 – October 2016



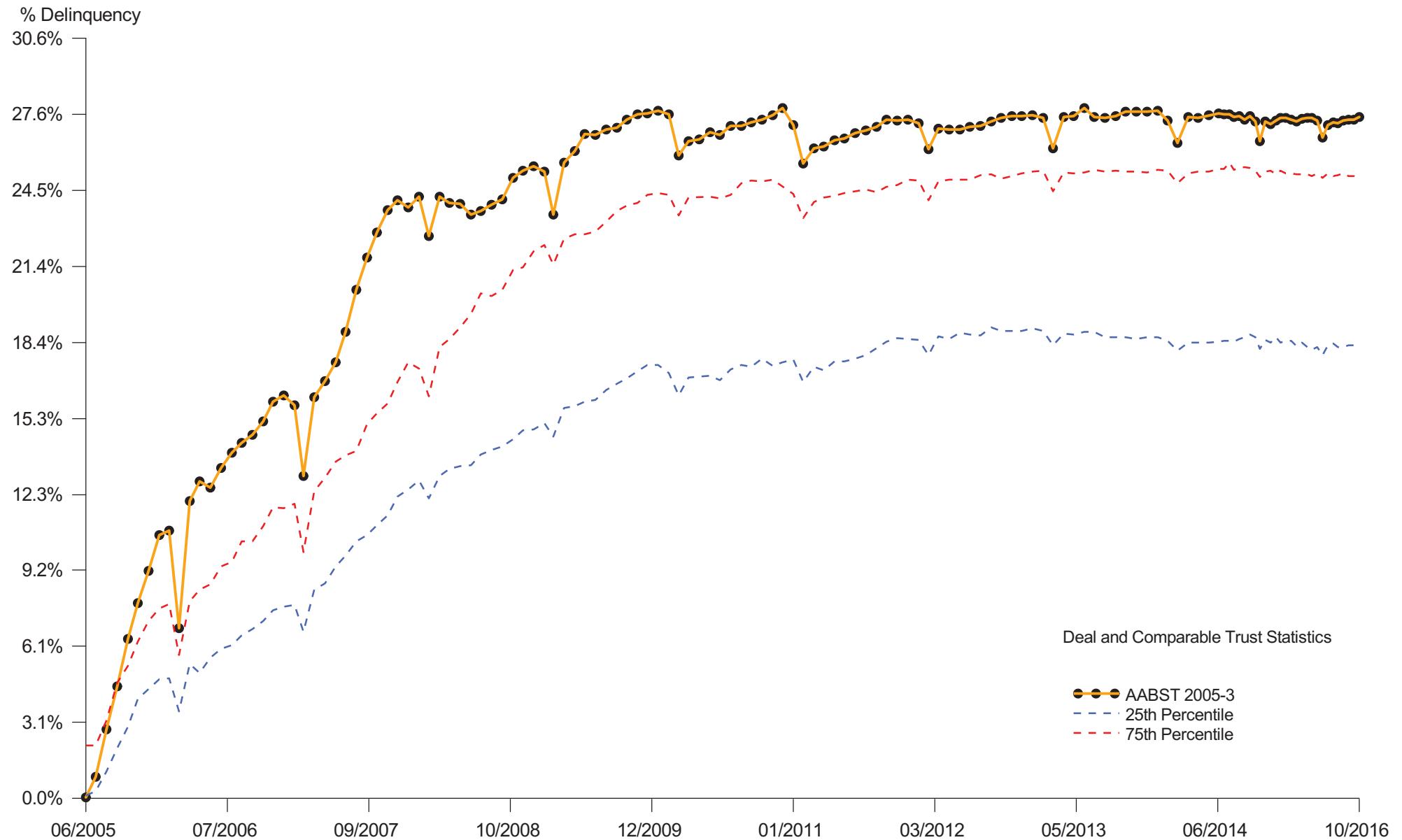
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 52 deals issued within 1 month of the closing date of AABST 2005-1 (Subprime) that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Bear Stearns & Co. Inc. or its subsidiaries.

**Exhibit 15**

# AABST 2005-3 Delinquency Percentage

## June 2005 – October 2016



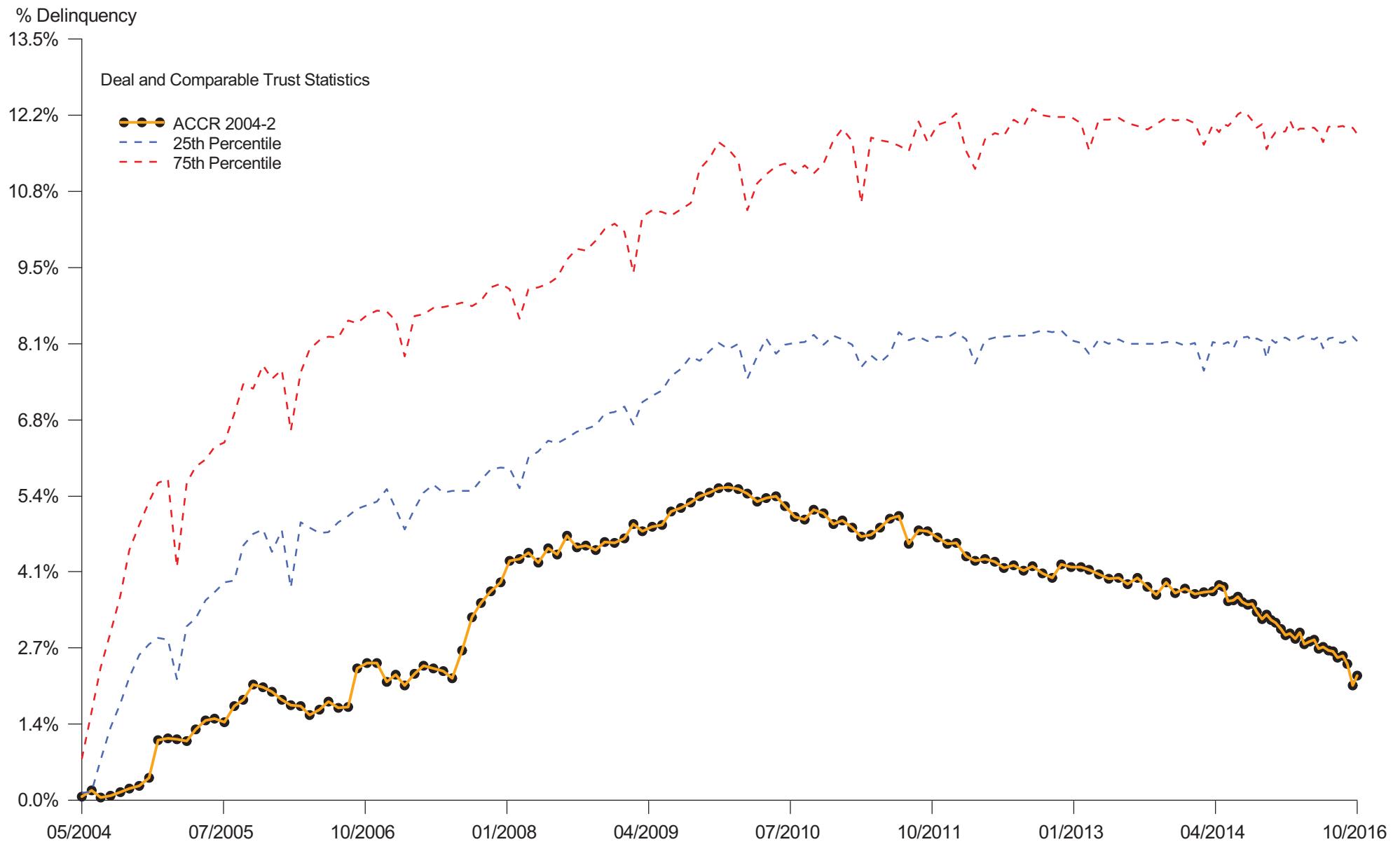
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 74 deals issued within 1 month of the closing date of AABST 2005-3 (Subprime) that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Lehman Brothers or its subsidiaries.

**Exhibit 15**

# ACCR 2004-2 Delinquency Percentage

## May 2004 – October 2016



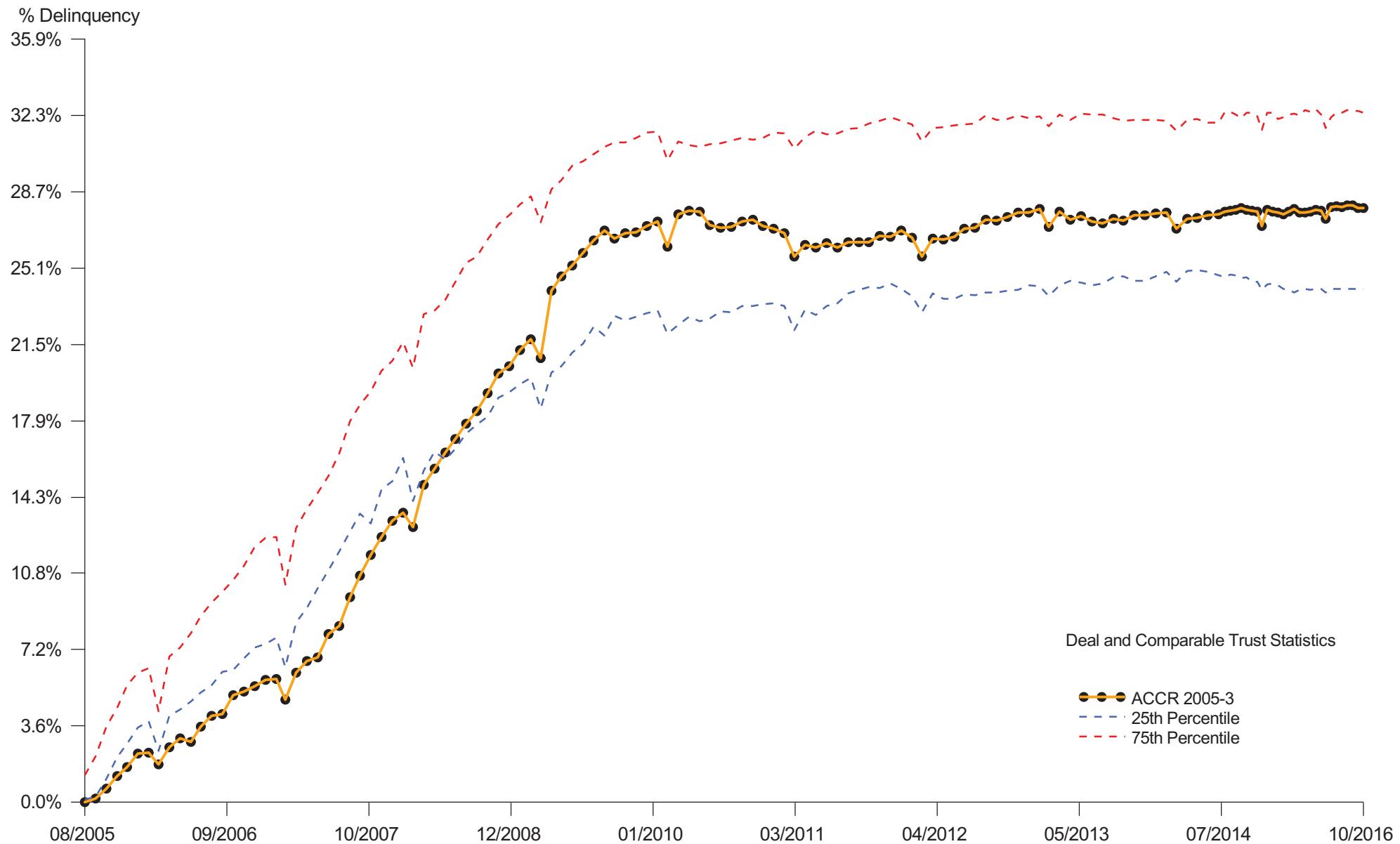
Source: ABSNet BlackBox

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 58 deals issued within 1 month of the closing date of ACCR 2004-2 (Subprime) that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by CS First Boston or its subsidiaries.

**Exhibit 15**

# ACCR 2005-3 Delinquency Percentage

## August 2005 – October 2016



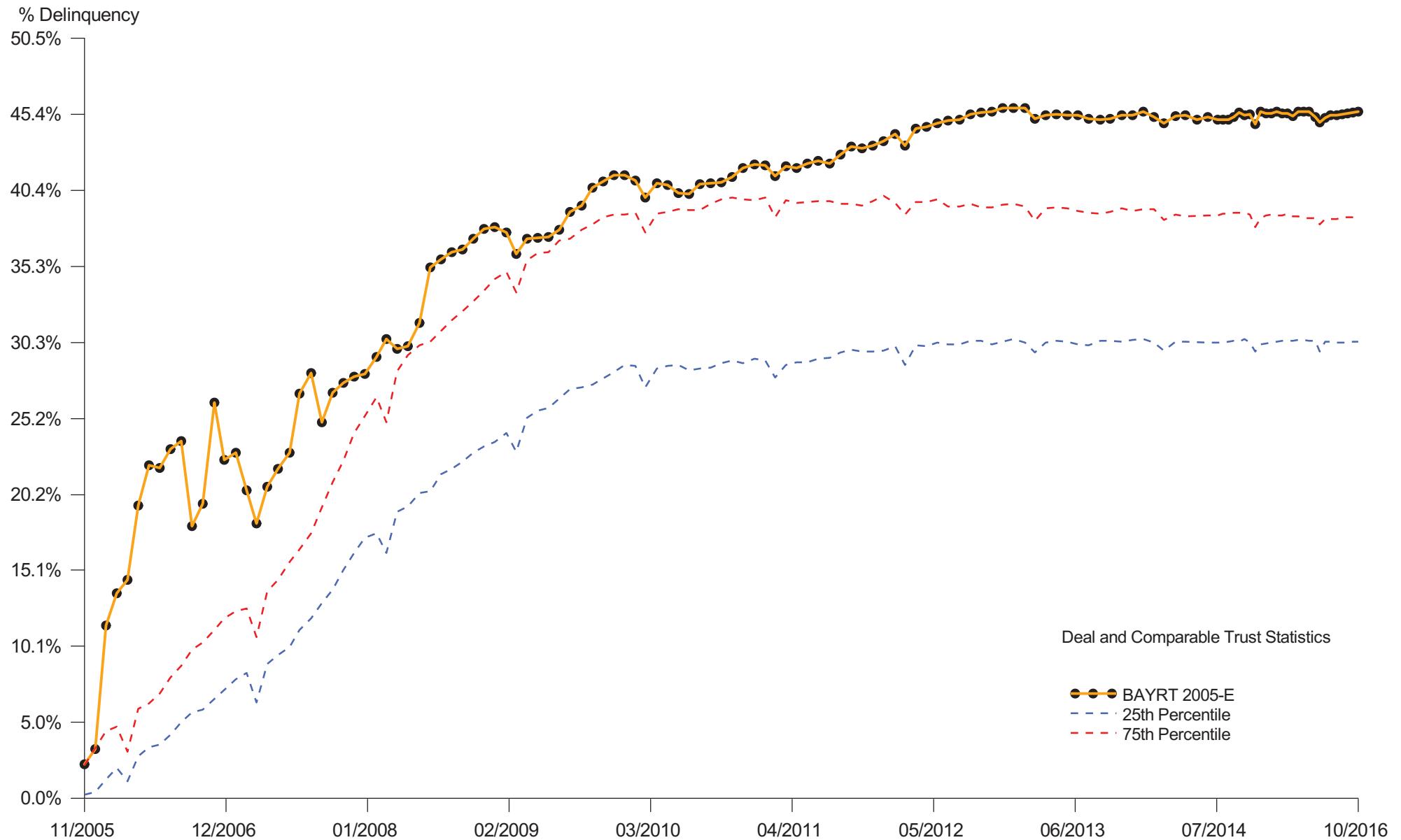
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 82 deals issued within 1 month of the closing date of ACCR 2005-3 (Subprime) that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Morgan Stanley or its subsidiaries.

**Exhibit 15**

# BAYRT 2005-E Delinquency Percentage

## November 2005 – October 2016



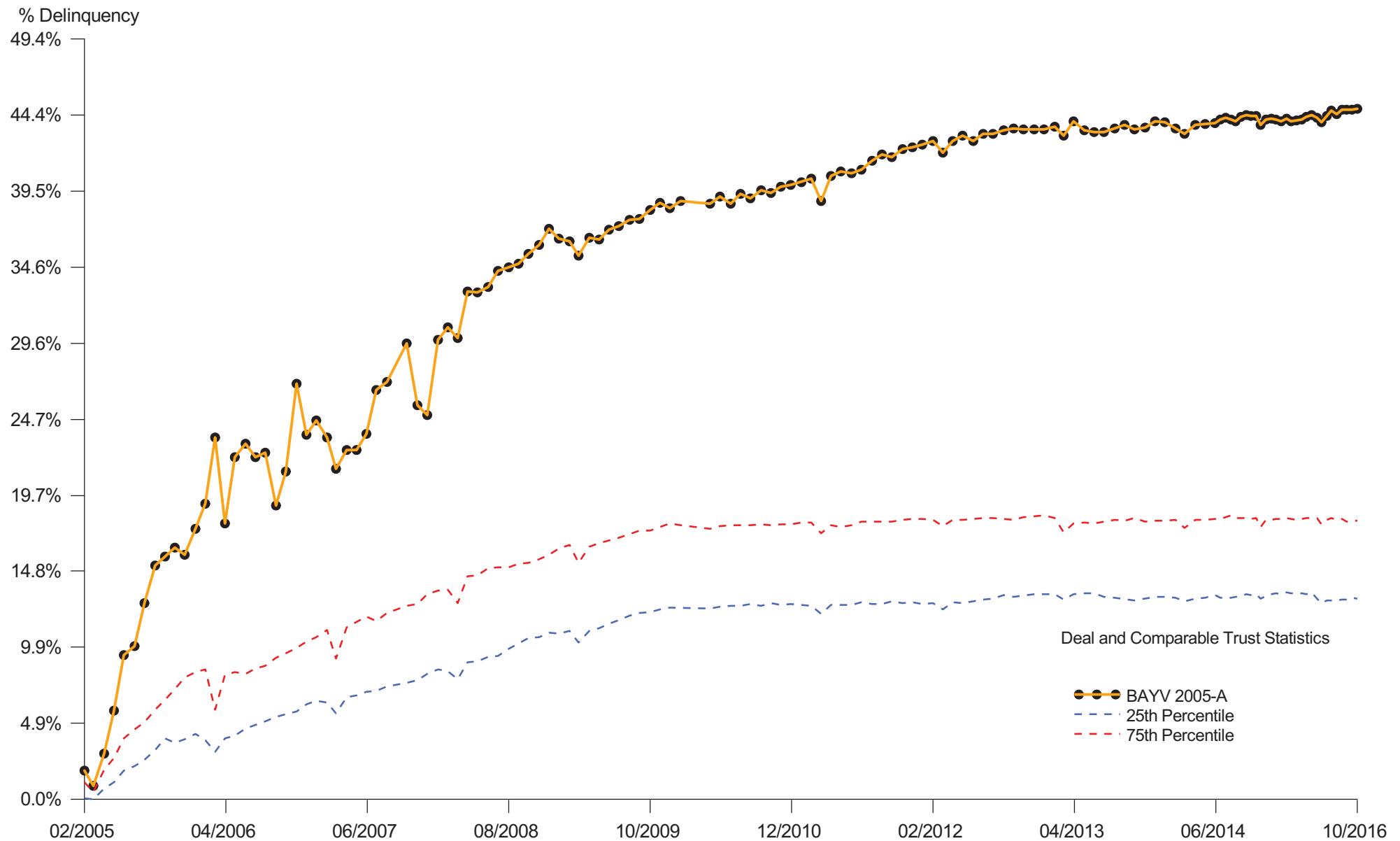
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 106 deals issued within 1 month of the closing date of BAYRT 2005-E (Scratch & Dent) that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by BayView Financial Acquisition Trust or its subsidiaries.

**Exhibit 15**

# BAYV 2005-A Delinquency Percentage

## February 2005 – October 2016



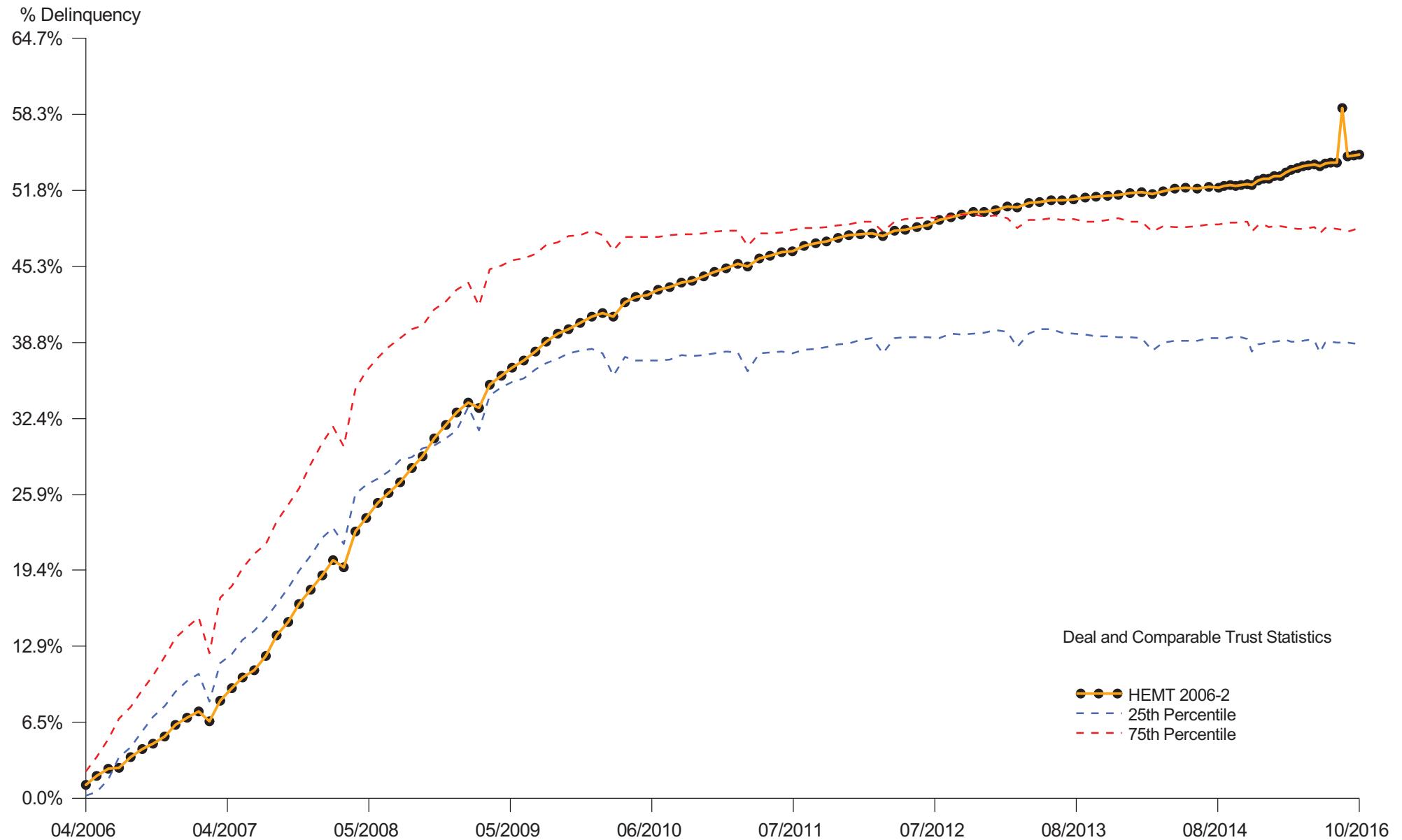
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 61 deals issued within 1 month of the closing date of BAYV 2005-A (Scratch & Dent) that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by BayView Financial Acquisition Trust or its subsidiaries. The data for the BAYV 2005-A series at 9/2007, 2/2010 and 3/2010 are dropped.

**Exhibit 15**

# HEMT 2006-2 Delinquency Percentage

## April 2006 – October 2016



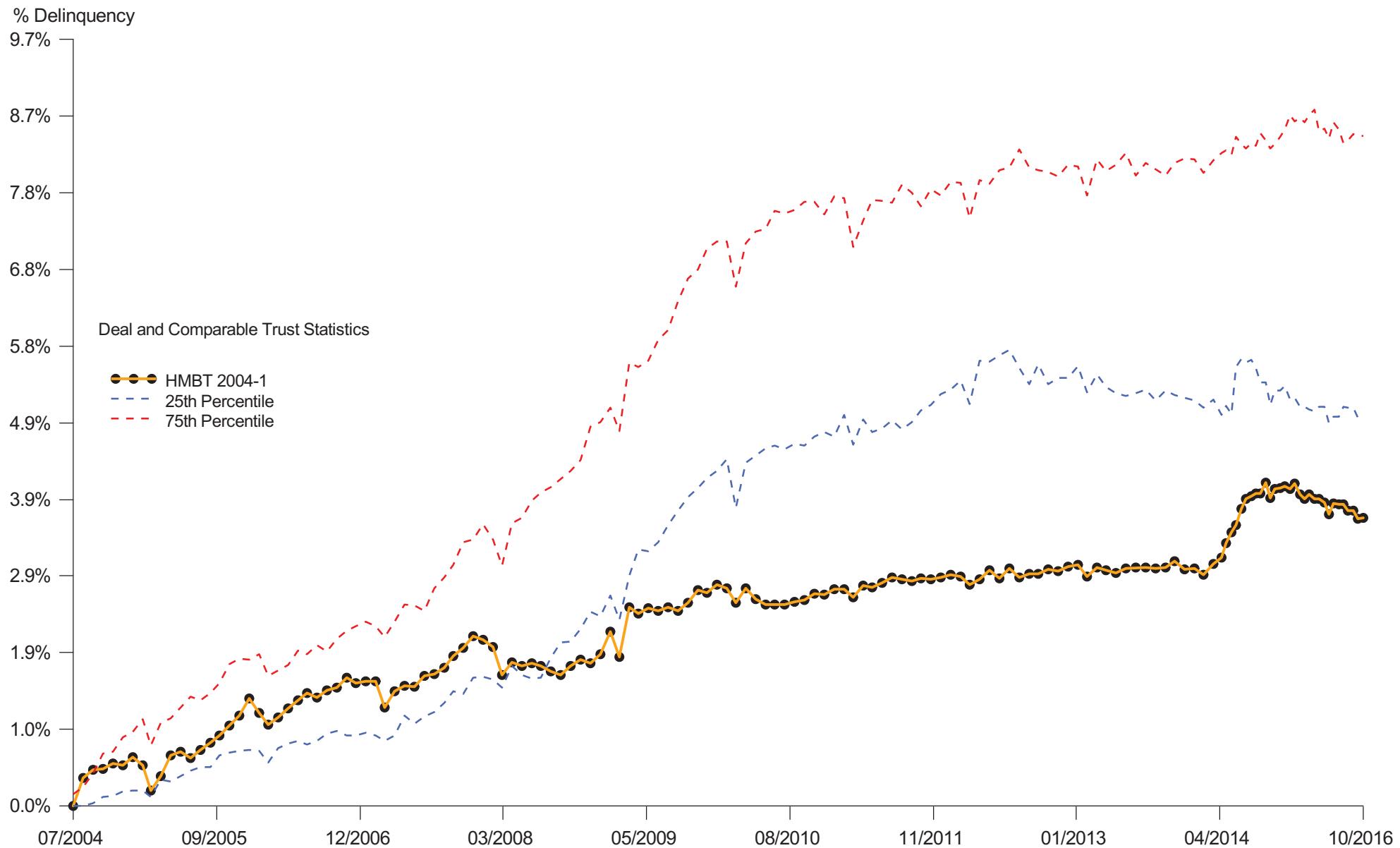
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 100 deals issued within 1 month of the closing date of HEMT 2006-2 (Second Lien) that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by CS First Boston or its subsidiaries.

**Exhibit 15**

# HMBT 2004-1 Delinquency Percentage

## July 2004 – October 2016



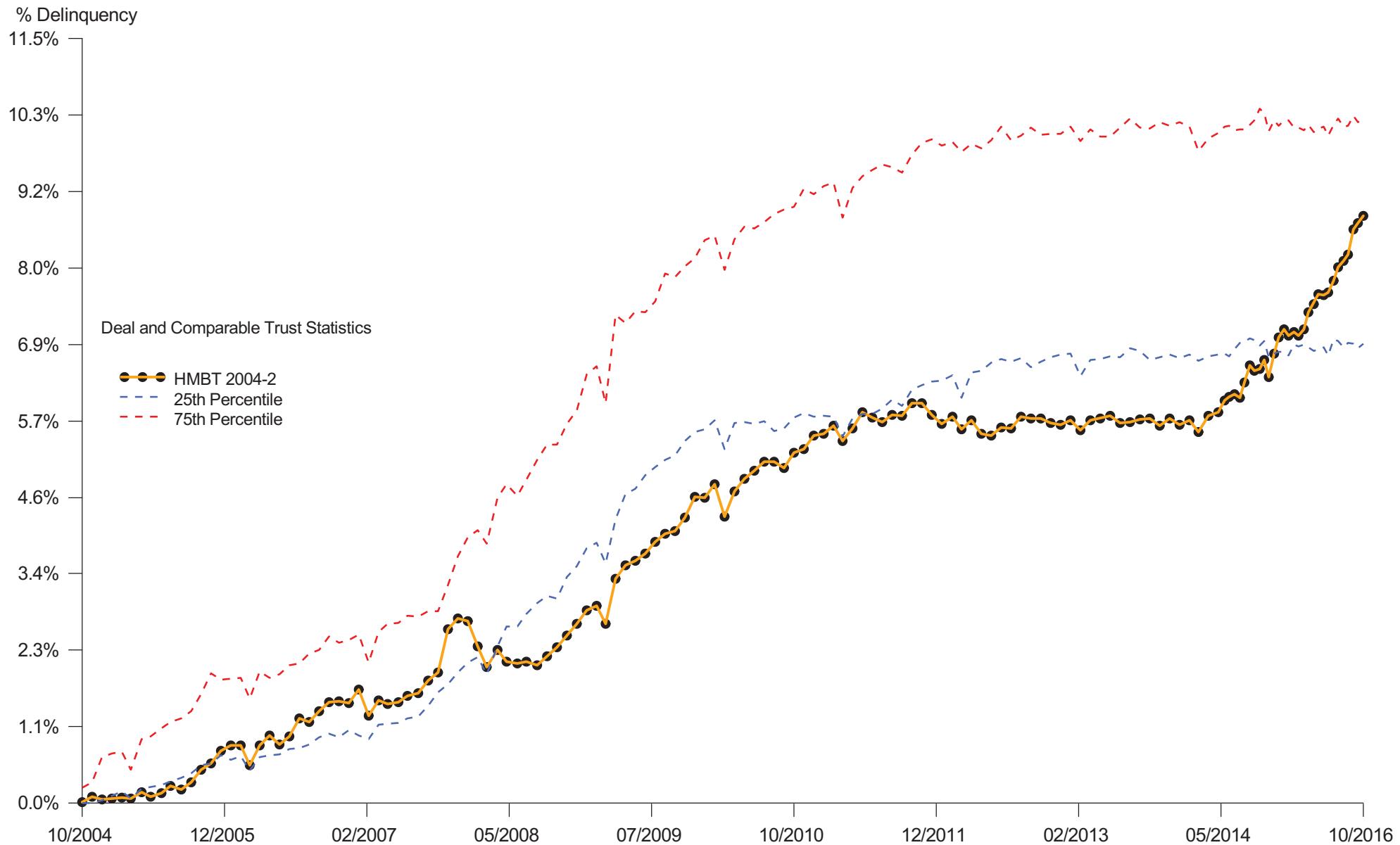
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 61 deals issued within 1 month of the closing date of HMBT 2004-1 (Alt-A) that have an asset type of Alt-A (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Bear Stearns & Co. Inc. or its subsidiaries.

**Exhibit 15**

# HMBT 2004-2 Delinquency Percentage

## October 2004 – October 2016



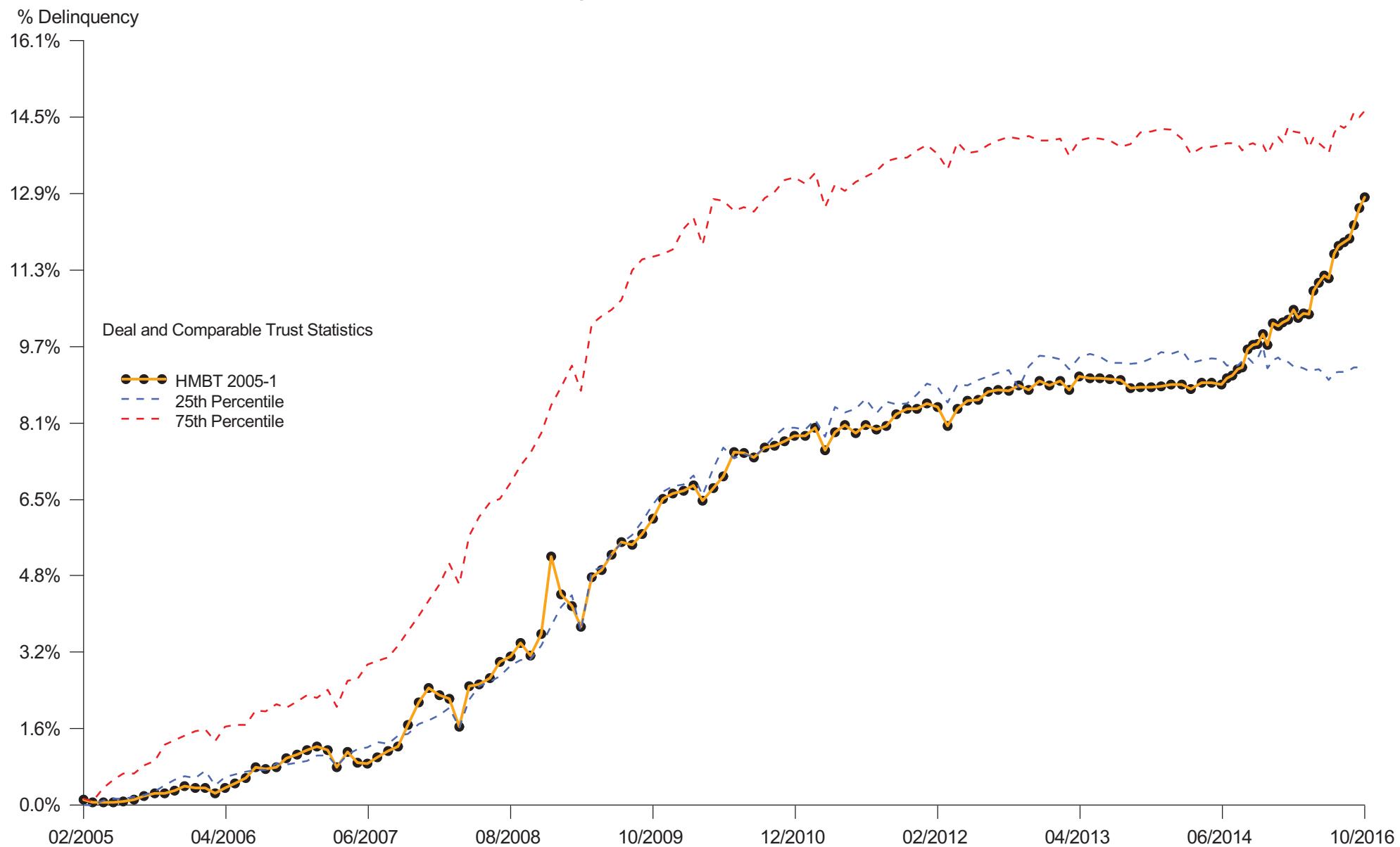
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 72 deals issued within 1 month of the closing date of HMBT 2004-2 (Alt-A) that have an asset type of Alt-A (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Bear Stearns & Co. Inc. or its subsidiaries.

**Exhibit 15**

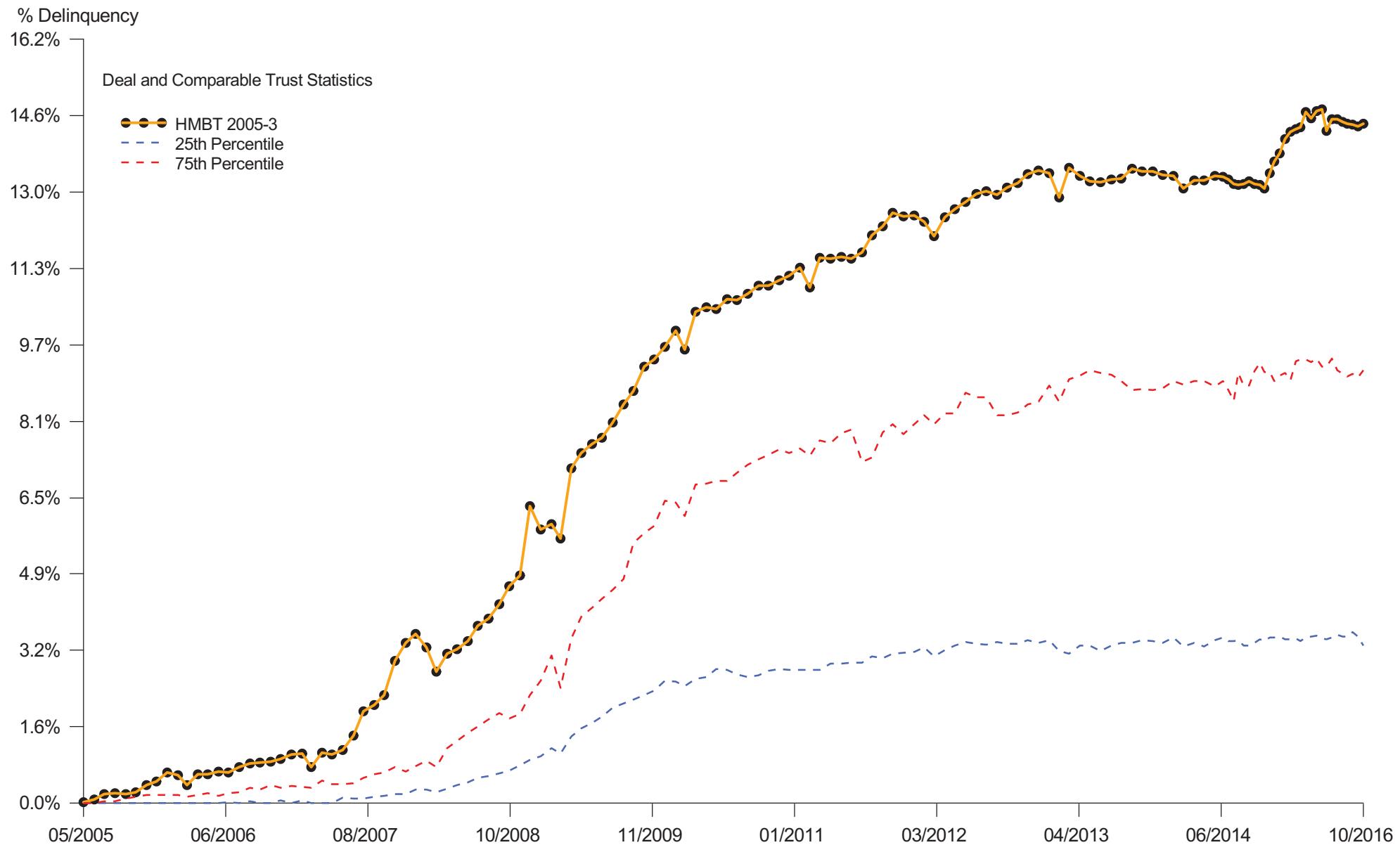
# HMBT 2005-1 Delinquency Percentage

## February 2005 – October 2016



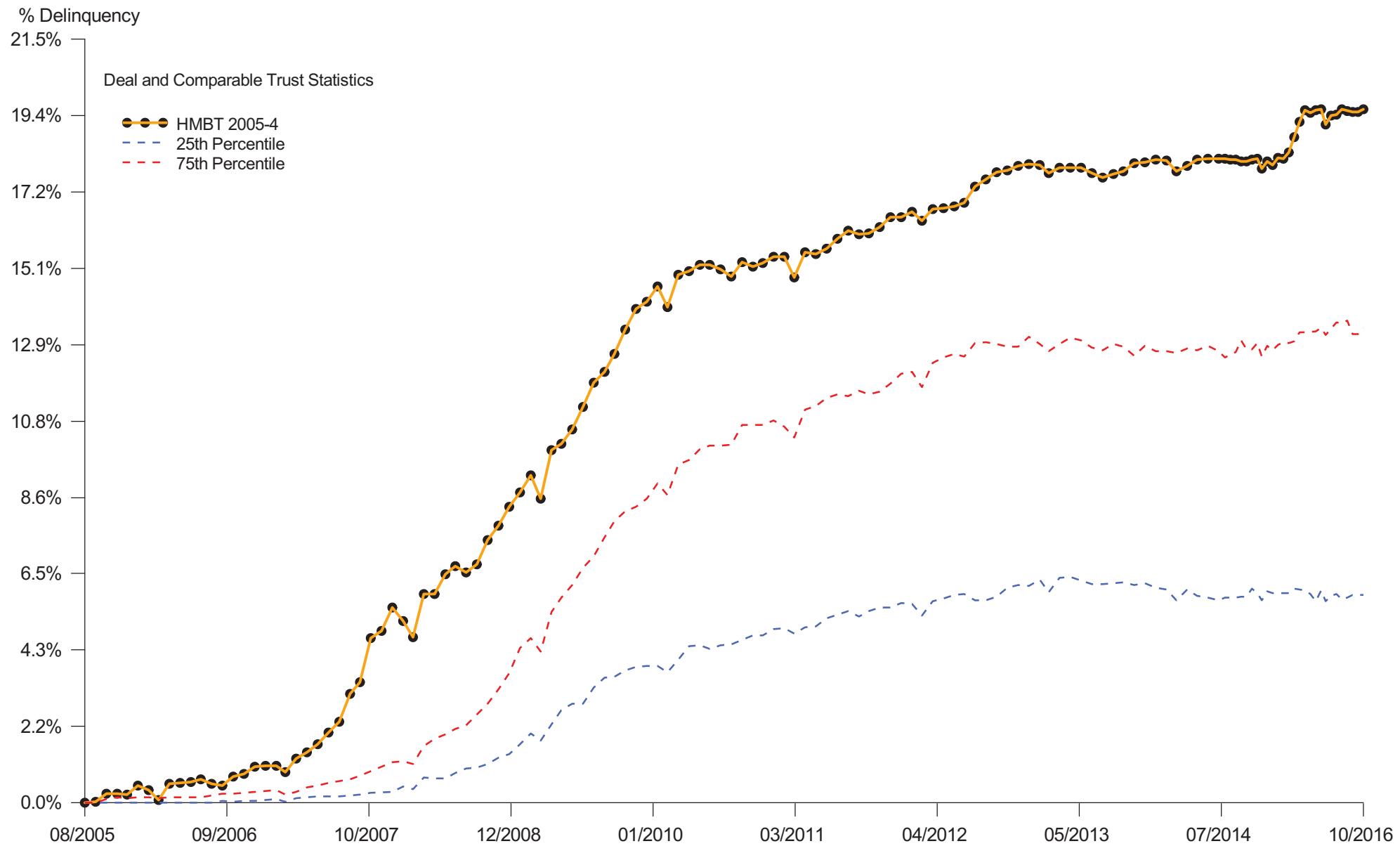
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 79 deals issued within 1 month of the closing date of HMBT 2005-1 (Alt-A) that have an asset type of Alt-A (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Bear Stearns & Co. Inc. or its subsidiaries.

**Exhibit 15****HMBT 2005-3 Delinquency Percentage  
May 2005 – October 2016**

Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 45 deals issued within 1 month of the closing date of HMBT 2005-3 (Prime) that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Bear Stearns & Co. Inc. or its subsidiaries.

**Exhibit 15****HMBT 2005-4 Delinquency Percentage  
August 2005 – October 2016**

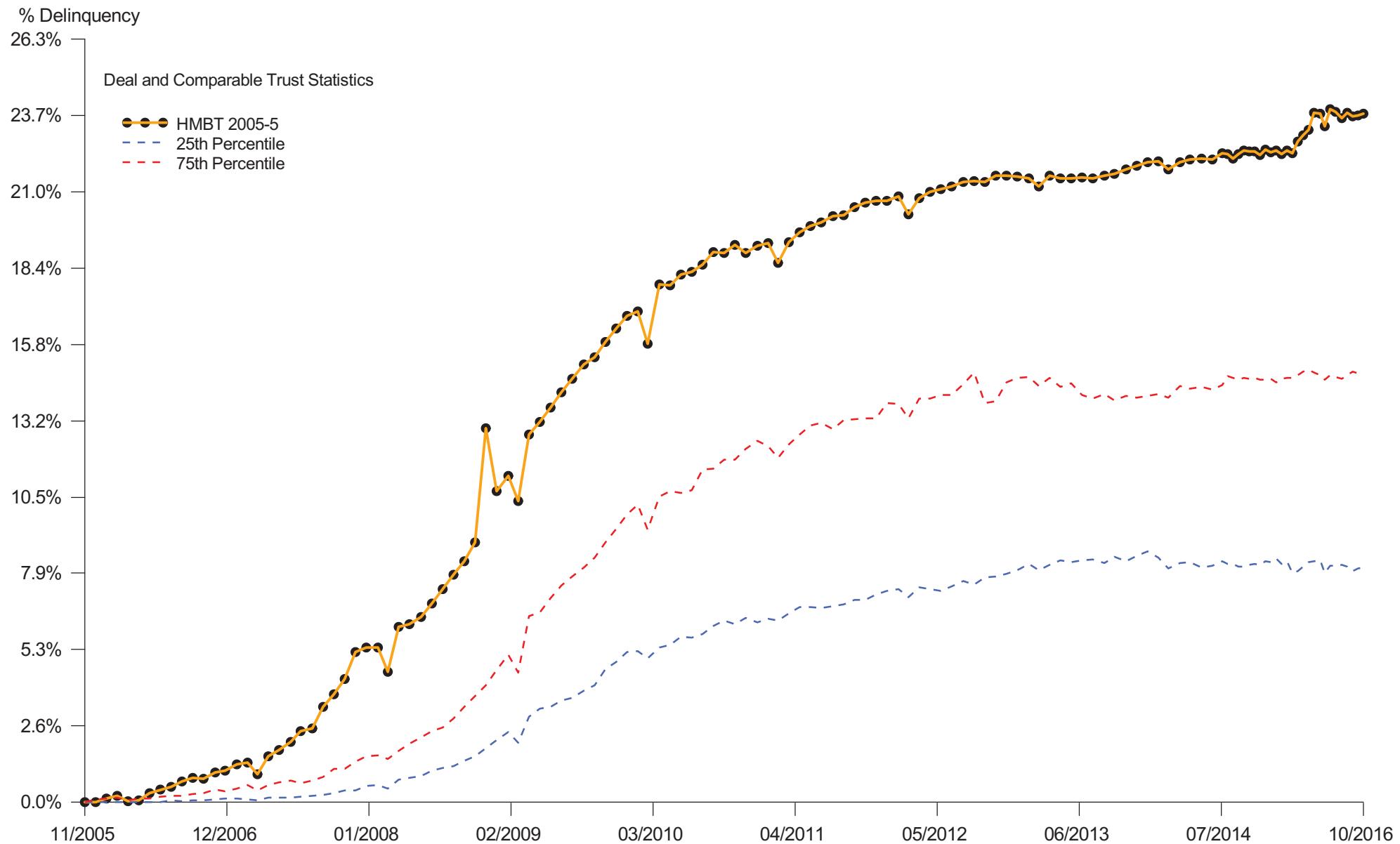
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 49 deals issued within 1 month of the closing date of HMBT 2005-4 (Prime) that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Bear Stearns & Co. Inc. or its subsidiaries.

**Exhibit 15**

# HMBT 2005-5 Delinquency Percentage

## November 2005 – October 2016



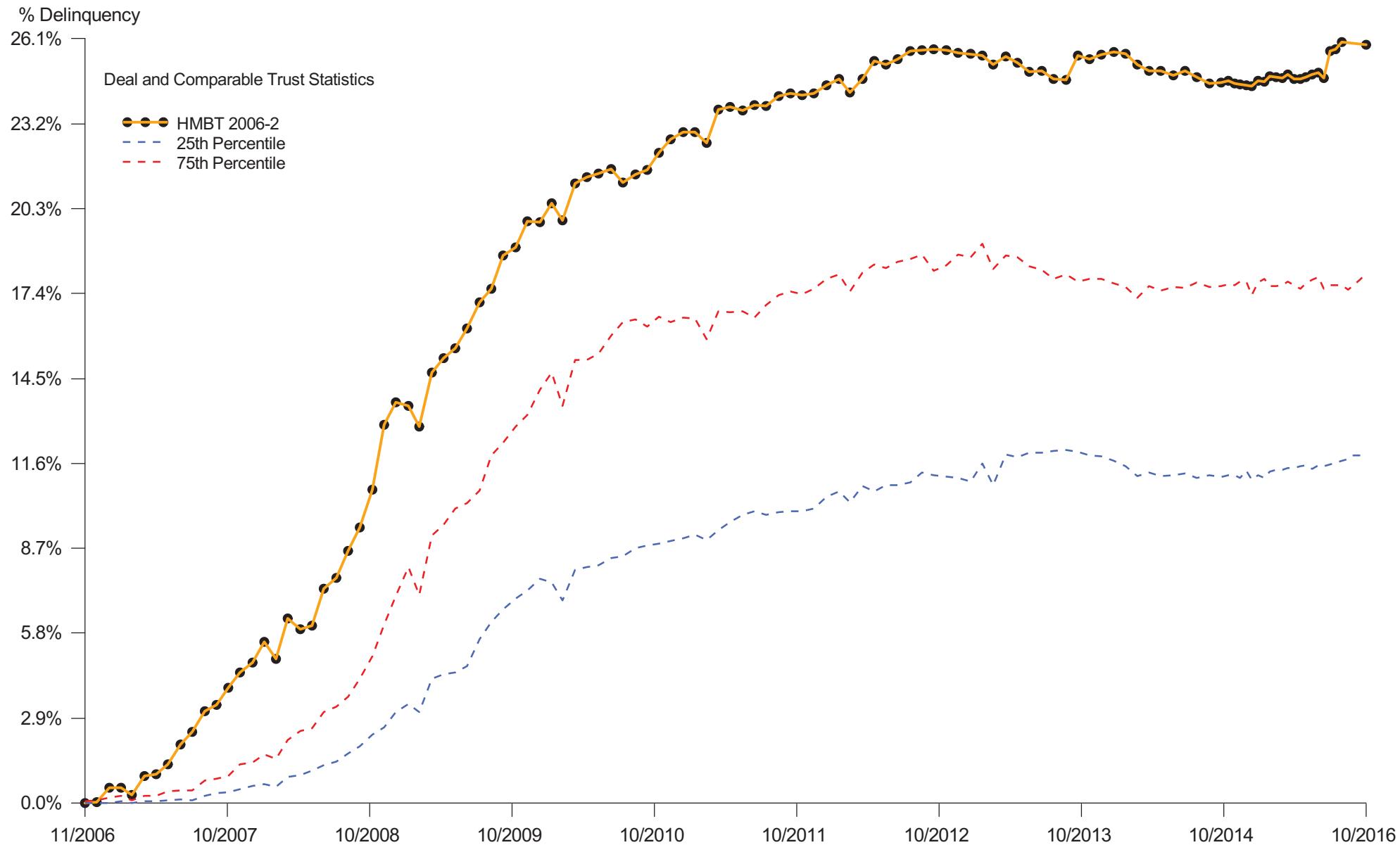
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 46 deals issued within 1 month of the closing date of HMBT 2005-5 (Prime) that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Bear Stearns & Co. Inc. or its subsidiaries.

**Exhibit 15**

# HMBT 2006-2 Delinquency Percentage

## November 2006 – October 2016



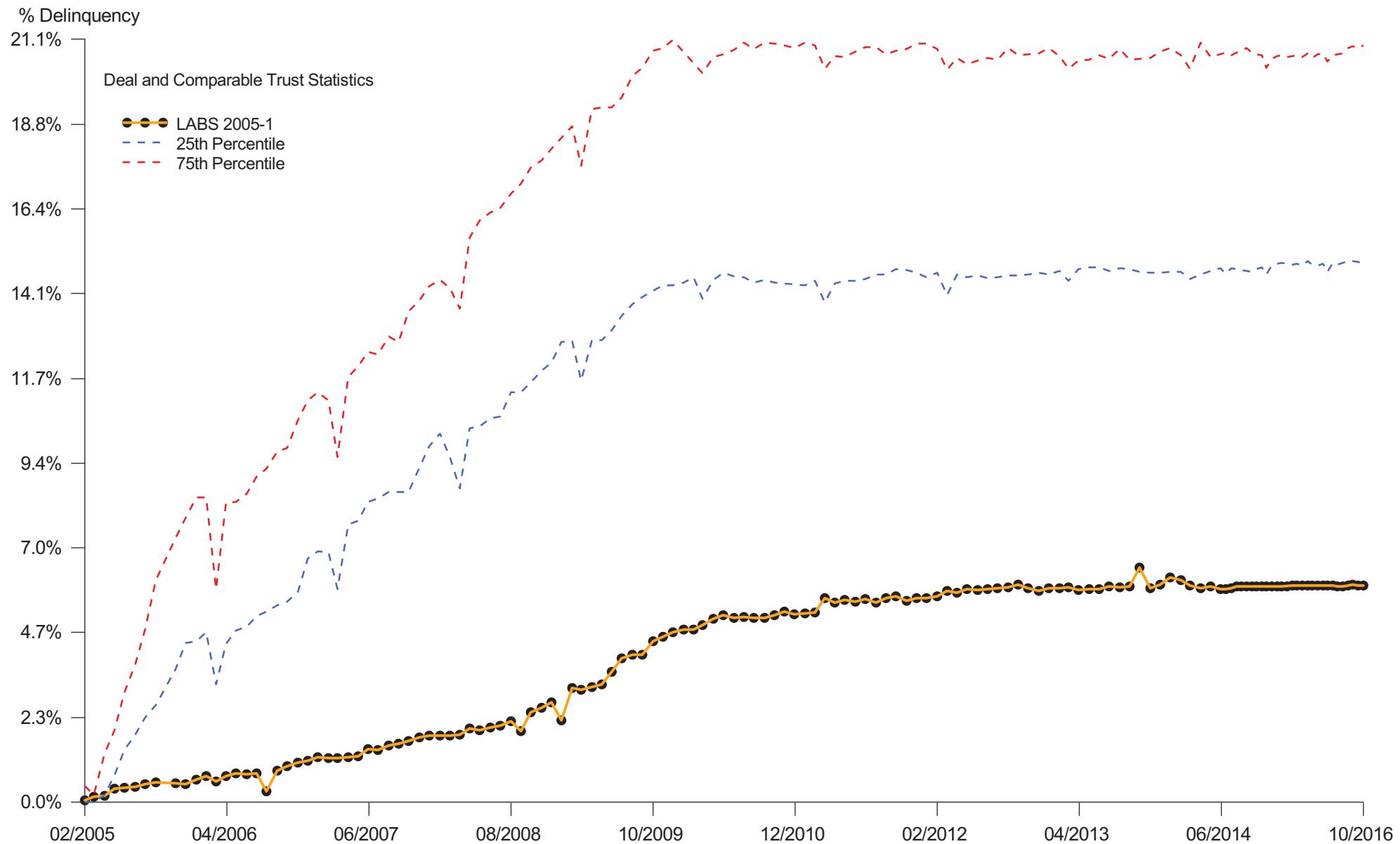
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 30 deals issued within 1 month of the closing date of HMBT 2006-2 (Prime) that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Bear Stearns & Co. Inc. or its subsidiaries.

**Exhibit 15**

# LABS 2005-1 Delinquency Percentage

## February 2005 – October 2016



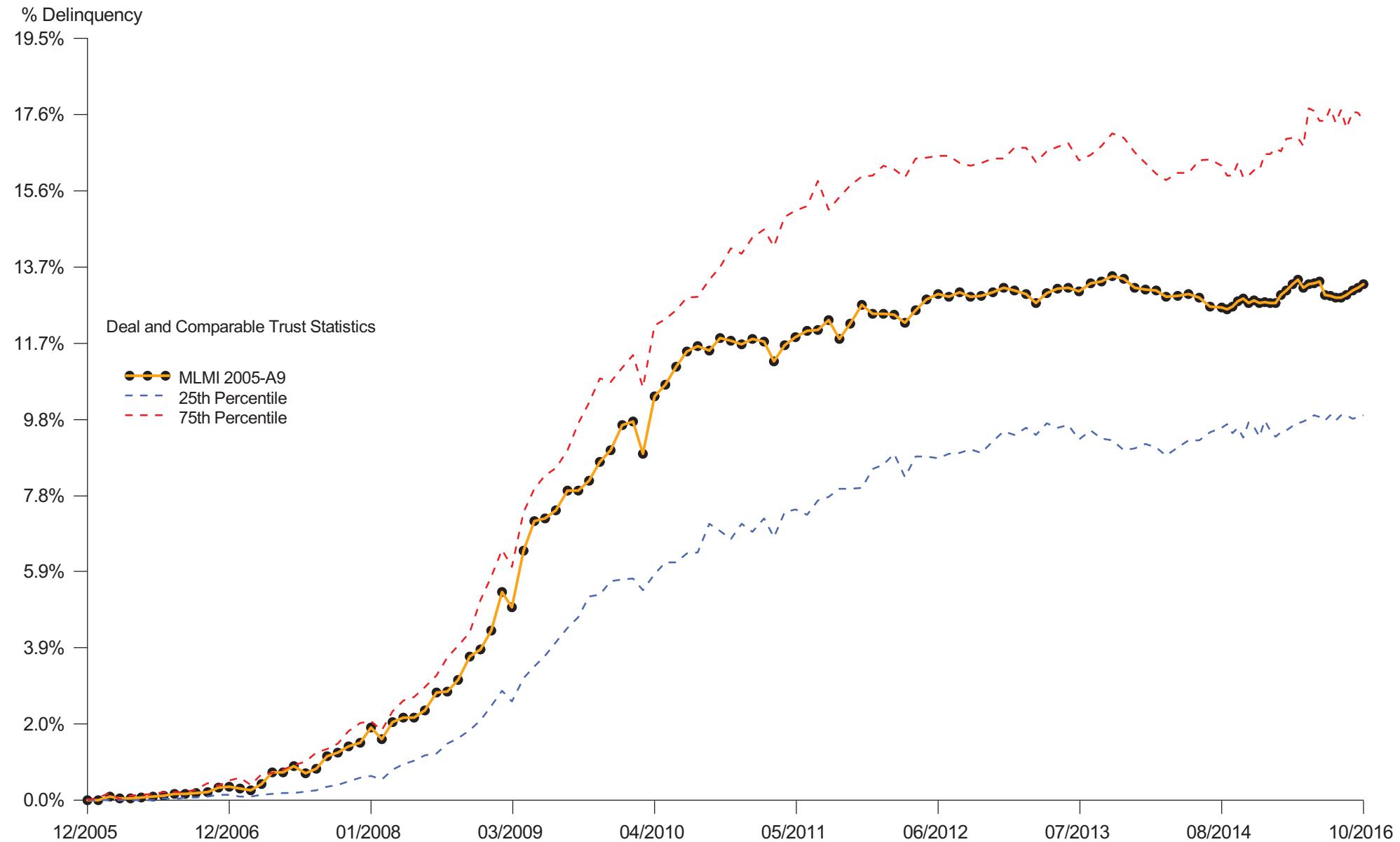
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 61 deals issued within 1 month of the closing date of LABS 2005-1 (HELOC) that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Lehman Brothers or its subsidiaries. The data for the LABS 2005-1 series at 10/2005 are dropped.

**Exhibit 15**

# MLMI 2005-A9 Delinquency Percentage

## December 2005 – October 2016



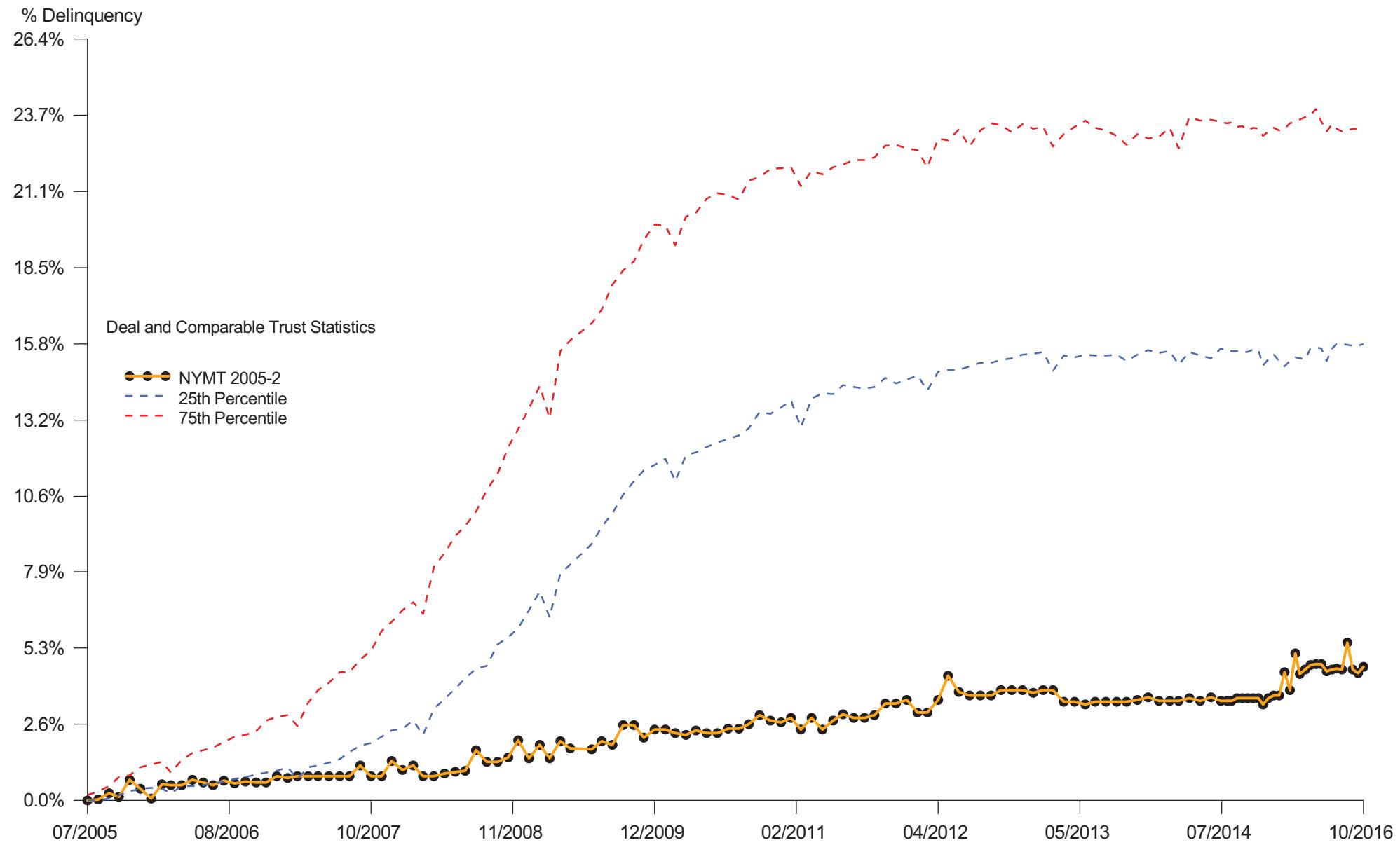
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 42 deals issued within 1 month of the closing date of MLMI 2005-A9 (Prime) that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Merrill Lynch & Co. Inc. or its subsidiaries.

**Exhibit 15**

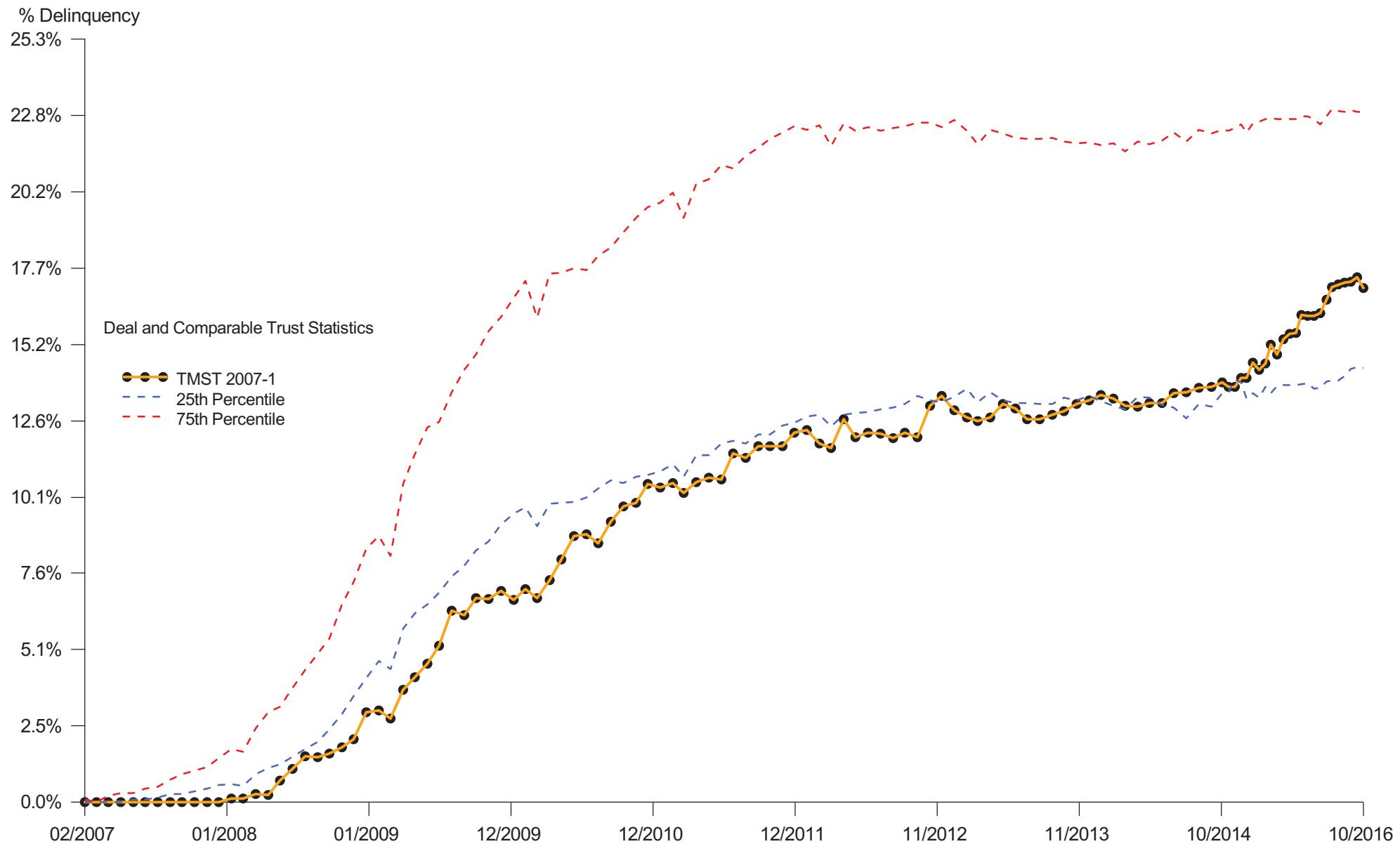
# NYMT 2005-2 Delinquency Percentage

## July 2005 – October 2016



Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 91 deals issued within 1 month of the closing date of NYMT 2005-2 (Alt-A) that have an asset type of Alt-A (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by RBS or its subsidiaries. The data for the NYMT 2005-2 series at 6/2009 are dropped.

**Exhibit 15****TMST 2007-1 Delinquency Percentage  
February 2007 – October 2016**

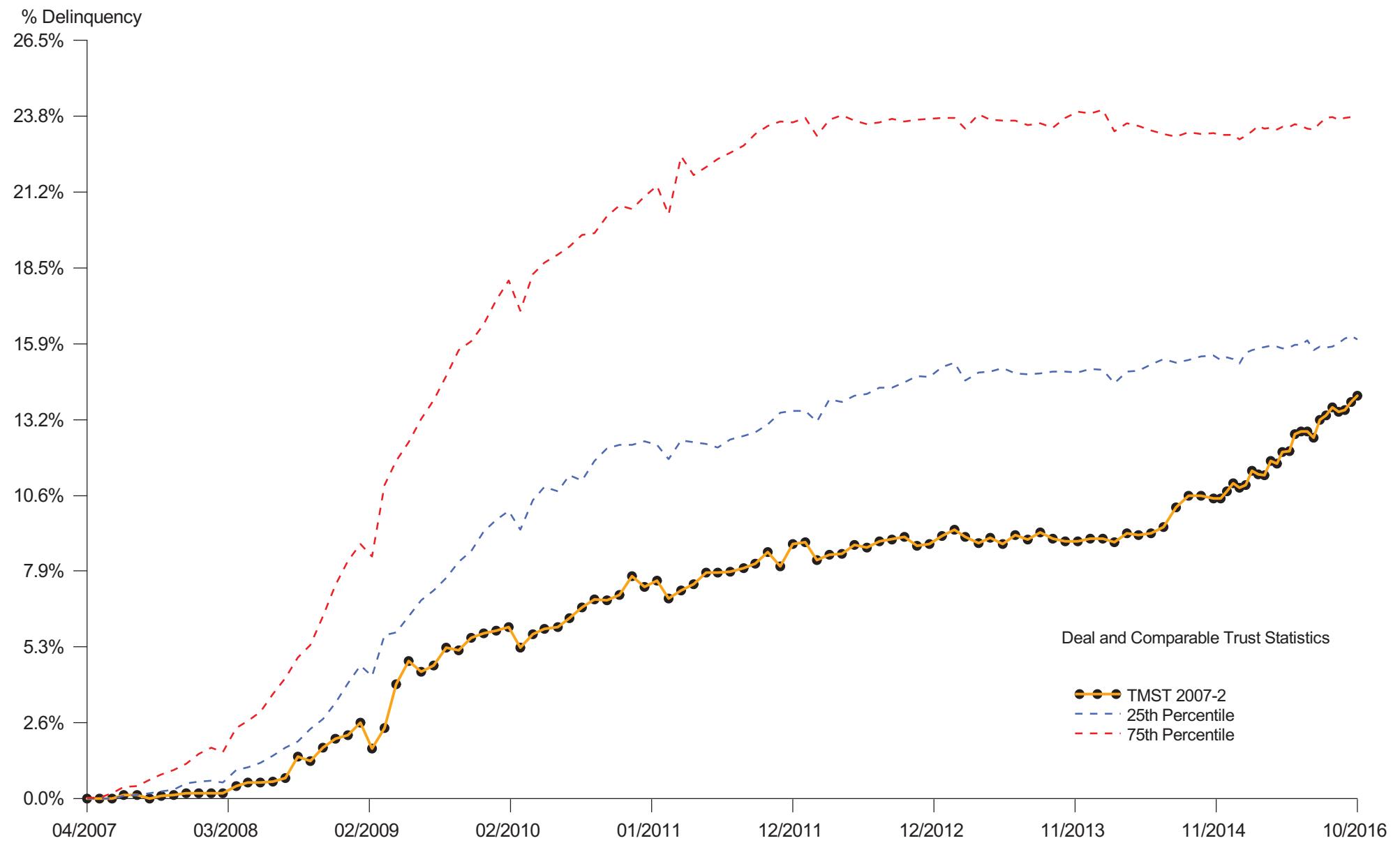
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 36 deals issued within 1 month of the closing date of TMST 2007-1 (Prime) that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Lehman Brothers or its subsidiaries.

**Exhibit 15**

# TMST 2007-2 Delinquency Percentage

## April 2007 – October 2016



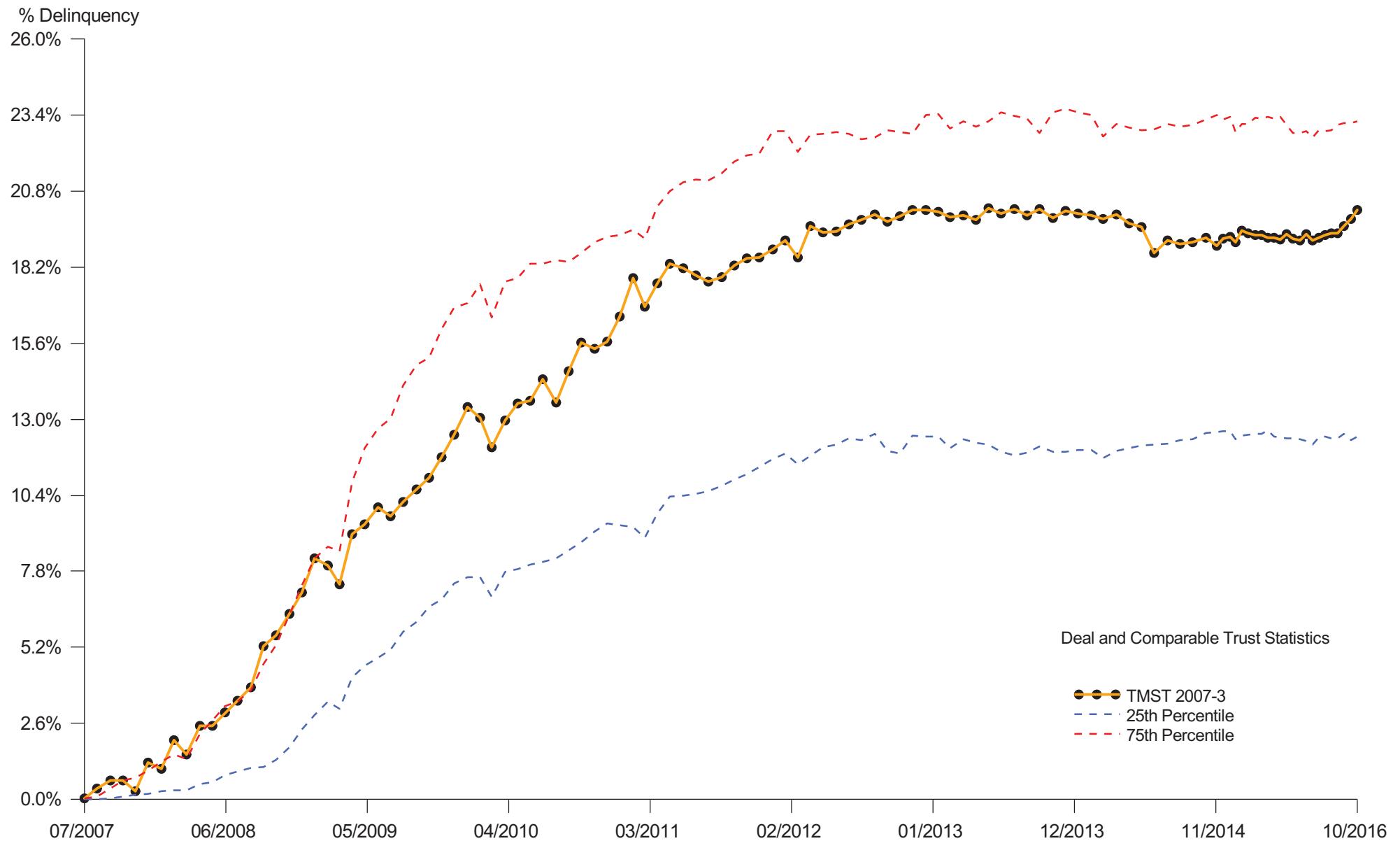
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 48 deals issued within 1 month of the closing date of TMST 2007-2 (Prime) that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Lehman Brothers or its subsidiaries.

**Exhibit 15**

# TMST 2007-3 Delinquency Percentage

## July 2007 – October 2016



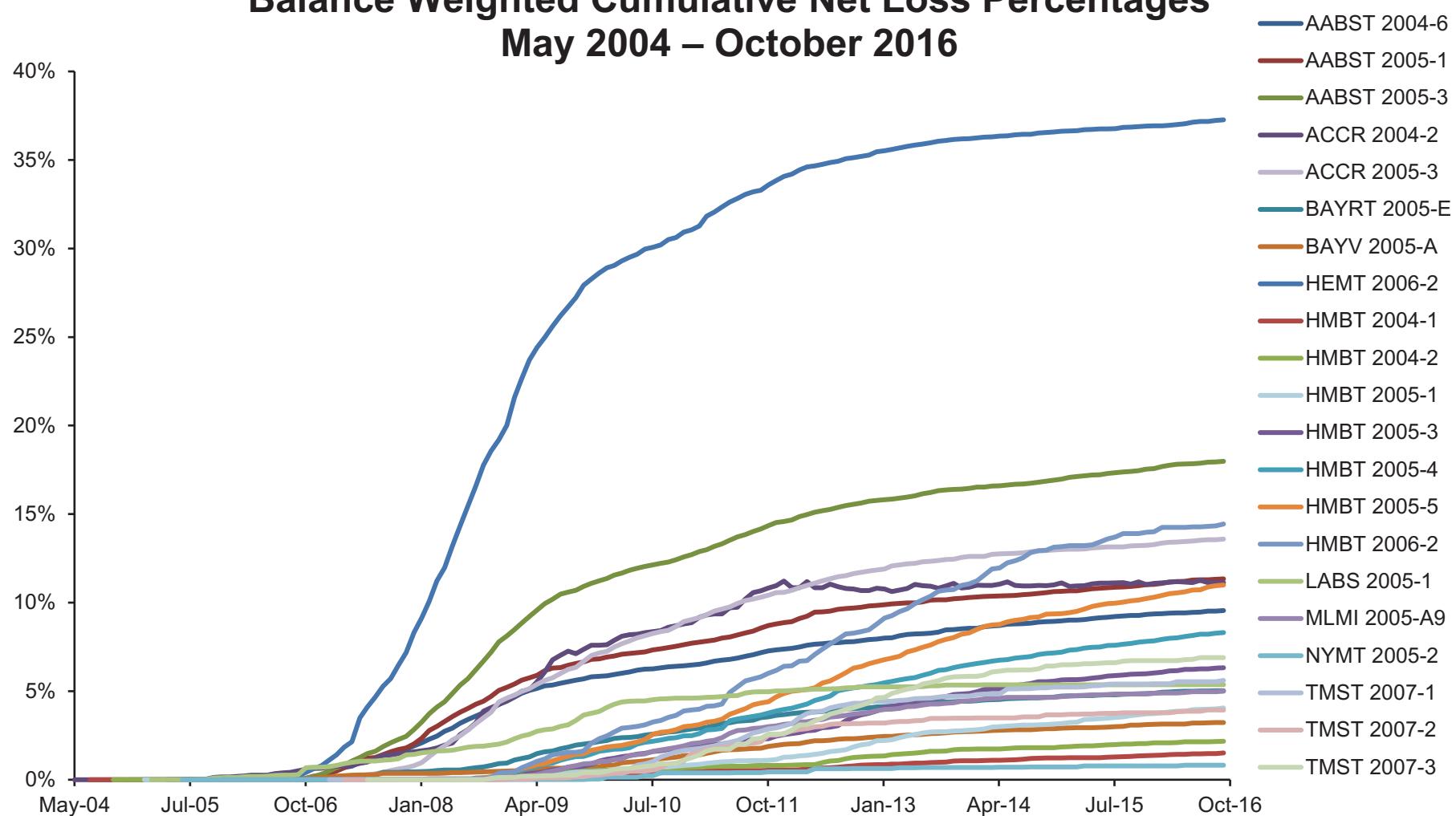
Source: ABSNet Loan

Note: Delinquency Percentage is the sum of the principal balances for all loans for which payment is 30 or more days past due (as defined by the Office of Thrift Supervision), the borrower is undergoing bankruptcy, the property is in foreclosure, the property is bank owned (REO), or the property has been liquidated, divided by the original principal balance of the deal. Summary statistics for the comparable trusts are based on 44 deals issued within 1 month of the closing date of TMST 2007-3 (Prime) that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Bear Stearns & Co. Inc. or its subsidiaries.

## Exhibit 16A

### Balance Weighted Cumulative Net Loss Percentages

#### May 2004 – October 2016



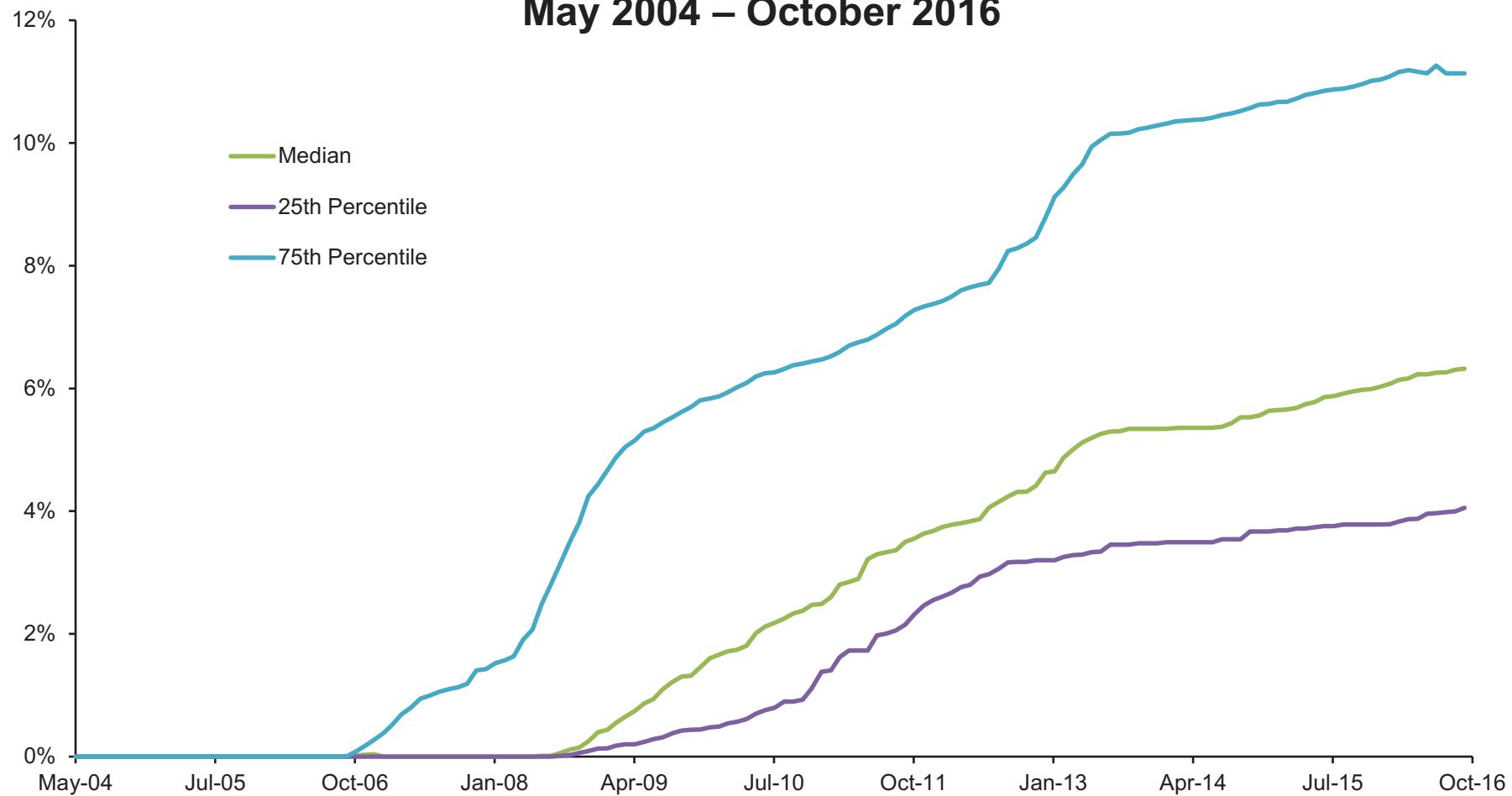
Source: ABSNet Loan

Note: Data are available for 21 trusts at issue. Cumulative Net Loss Percentage is calculated as the cumulative loss amount net of recoveries divided by the original principal balance of the trusts at issue. Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included. ABSNet Loan data are not available for trusts GPHE 2004-2, GPHE 2004-3, and IRWHE 2005-1 and are excluded for IRWHE 2004-1 due to insufficient data.

## Exhibit 16B

### Distribution of Cumulative Net Loss Percentages

#### May 2004 – October 2016

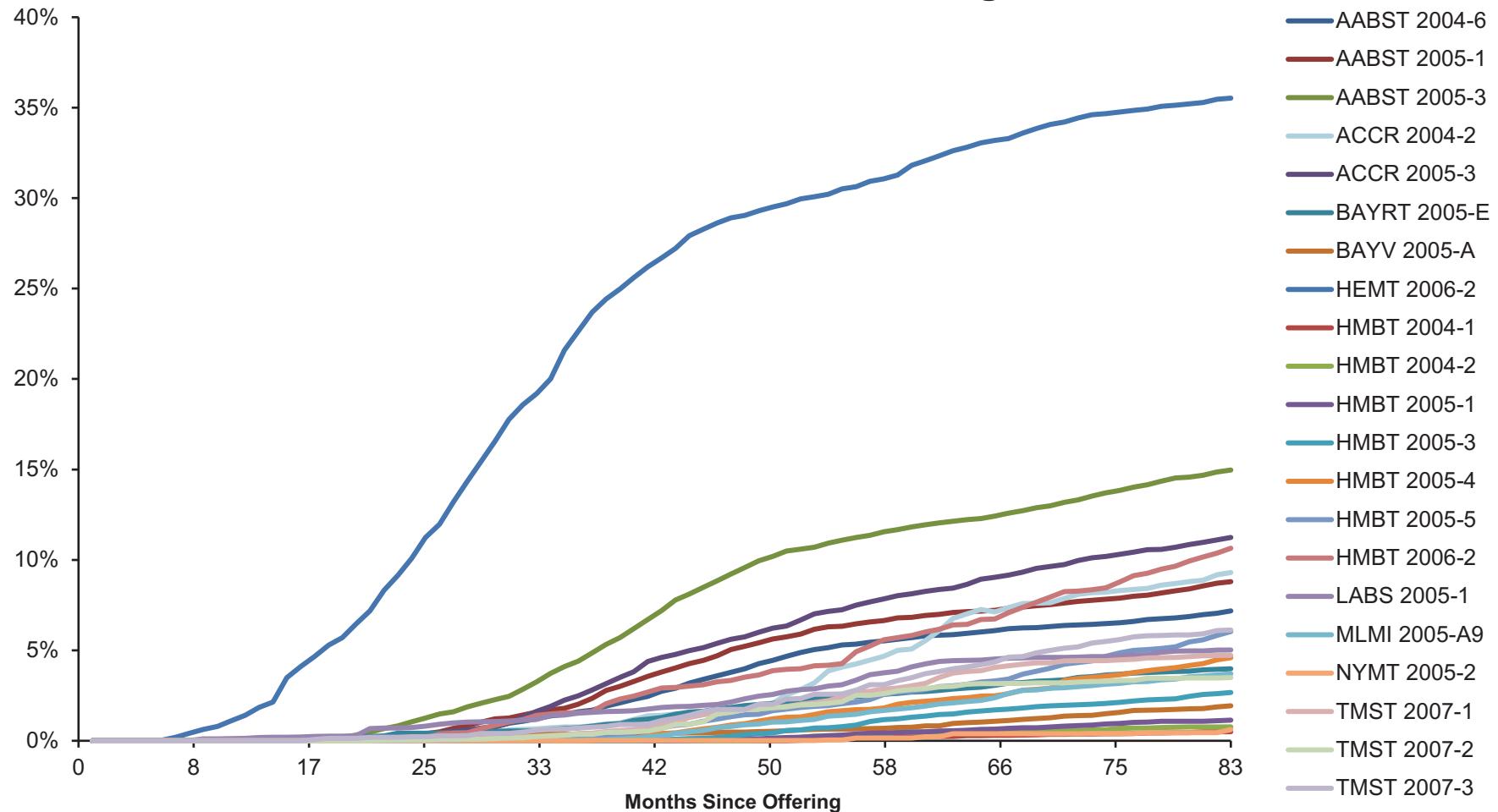


Source: ABSNet Loan

Note: Data are available for 21 trusts at issue. The median, 25th percentile, and 75th percentile are calculated across the 21 trusts at issue. Cumulative Net Loss Percentage is calculated as the cumulative loss amount net of recoveries divided by the original principal balance of the trusts at issue. Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included. ABSNet Loan data are not available for trusts GPHE 2004-2, GPHE 2004-3, and IRWHE 2005-1 and are excluded for IRWHE 2004-1 due to insufficient data.

## Exhibit 16C

### Balance Weighted Cumulative Net Loss Percentages Since Month of Offering

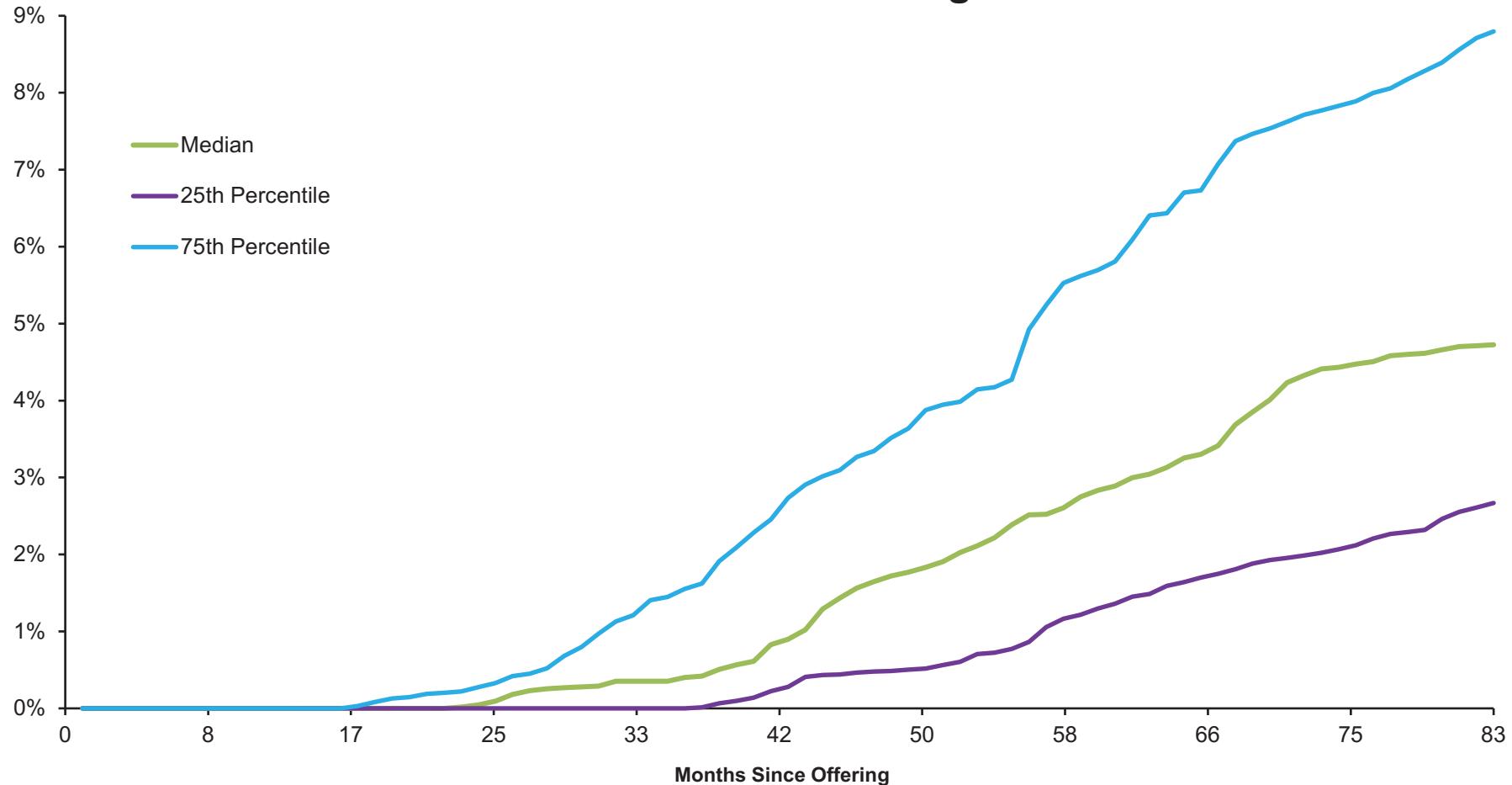


Source: ABSNet Loan

Note: Data are available for 21 trusts at issue. Cumulative Net Loss Percentage is calculated as the cumulative loss amount net of recoveries divided by the original principal balance of the trusts at issue. Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included. The securitization dates for the 21 trusts range from May 2004 to July 2007. ABSNet Loan data are not available for trusts GPHE 2004-2, GPHE 2004-3, and IRWHE 2005-1 and are excluded for IRWHE 2004-1 due to insufficient data.

## Exhibit 16D

### Distribution of Cumulative Net Loss Percentages Since Month of Offering



Source: ABSNet Loan

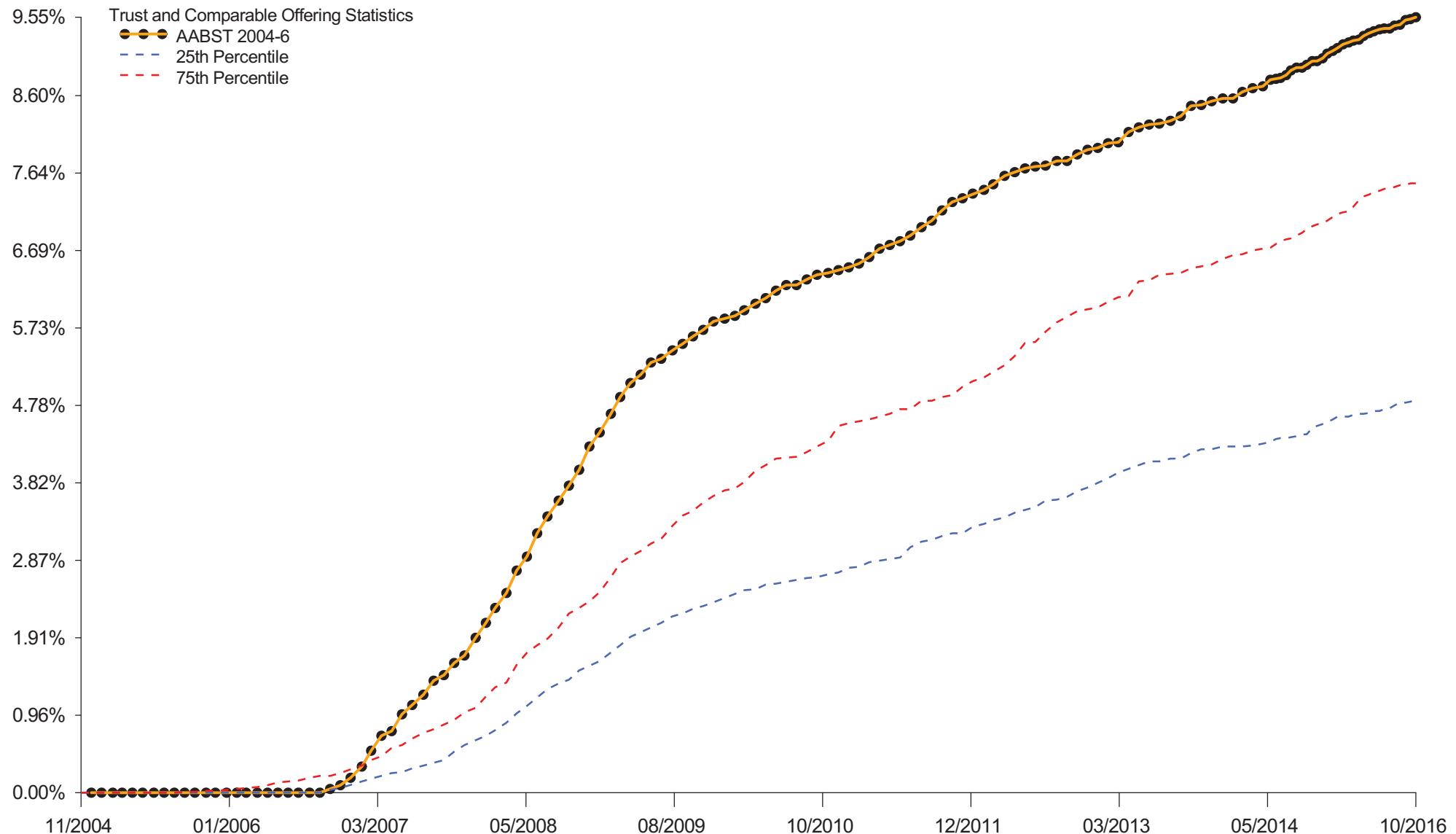
Note: Data are available for 21 trusts at issue. The median, 25th percentile, and 75th percentile are calculated across the 21 trusts at issue. Cumulative Net Loss Percentage is calculated as the cumulative loss amount net of recoveries divided by the original principal balance of the trusts at issue. Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included. The securitization dates for the 21 trusts range from May 2004 to July 2007. ABSNet Loan data are not available for trusts GPHE 2004-2, GPHE 2004-3, and IRWHE 2005-1 and are excluded for IRWHE 2004-1 due to insufficient data.

**Exhibit 17**

# AABST 2004-6 Cumulative Net Loss Percentage

## November 2004 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] AABST 2004-6 has an asset type of Subprime. Summary statistics for the comparable trusts are based on 54 trusts issued within one month of the closing date of AABST 2004-6 that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Aegis Asset Backed Securities Trust or Bear Stearns &amp; Co. Inc. or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

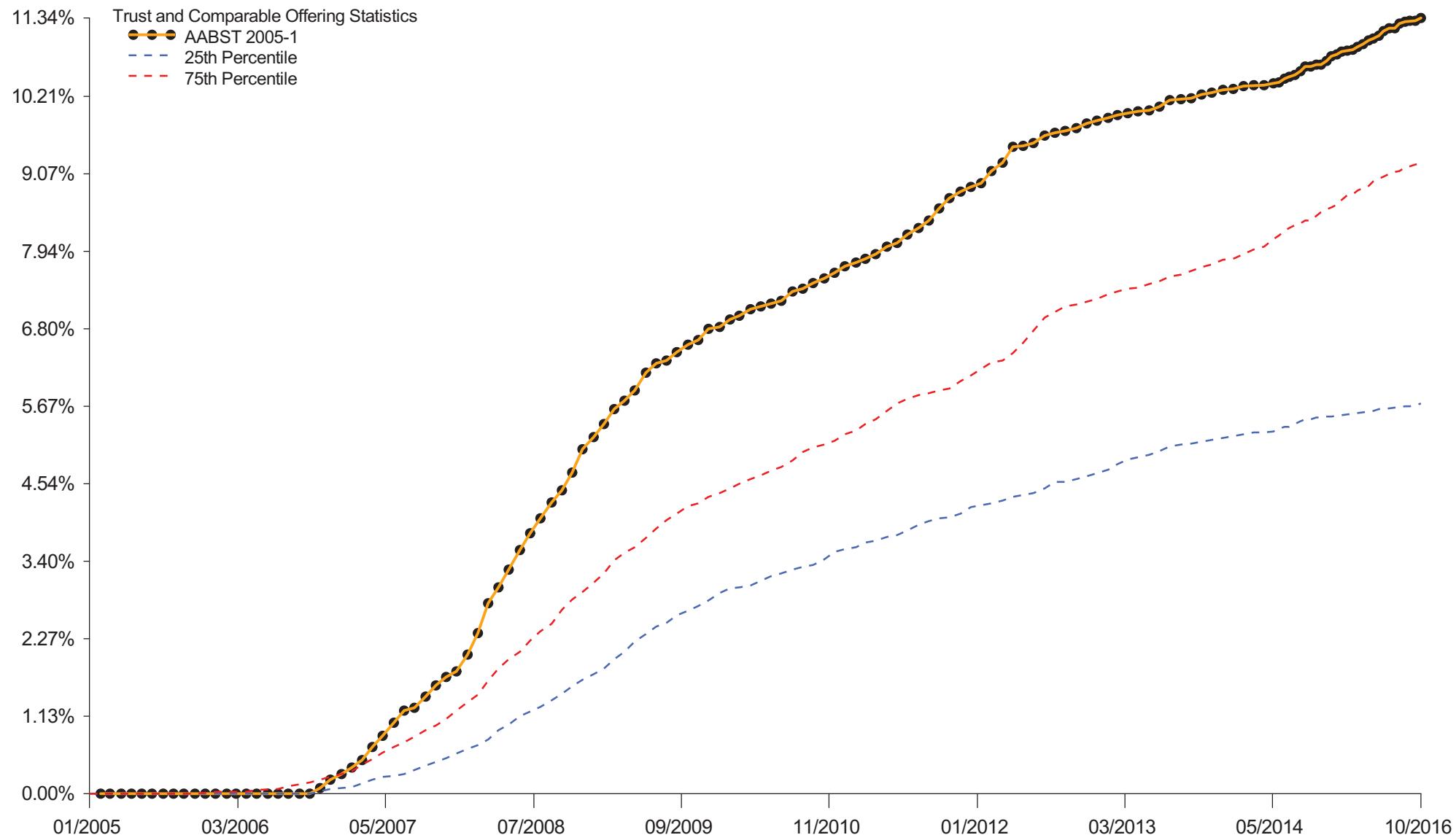
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# AABST 2005-1 Cumulative Net Loss Percentage

## January 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] AABST 2005-1 has an asset type of Subprime. Summary statistics for the comparable trusts are based on 52 trusts issued within one month of the closing date of AABST 2005-1 that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Aegis Asset Backed Securities Trust or Bear Stearns & Co. Inc. or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

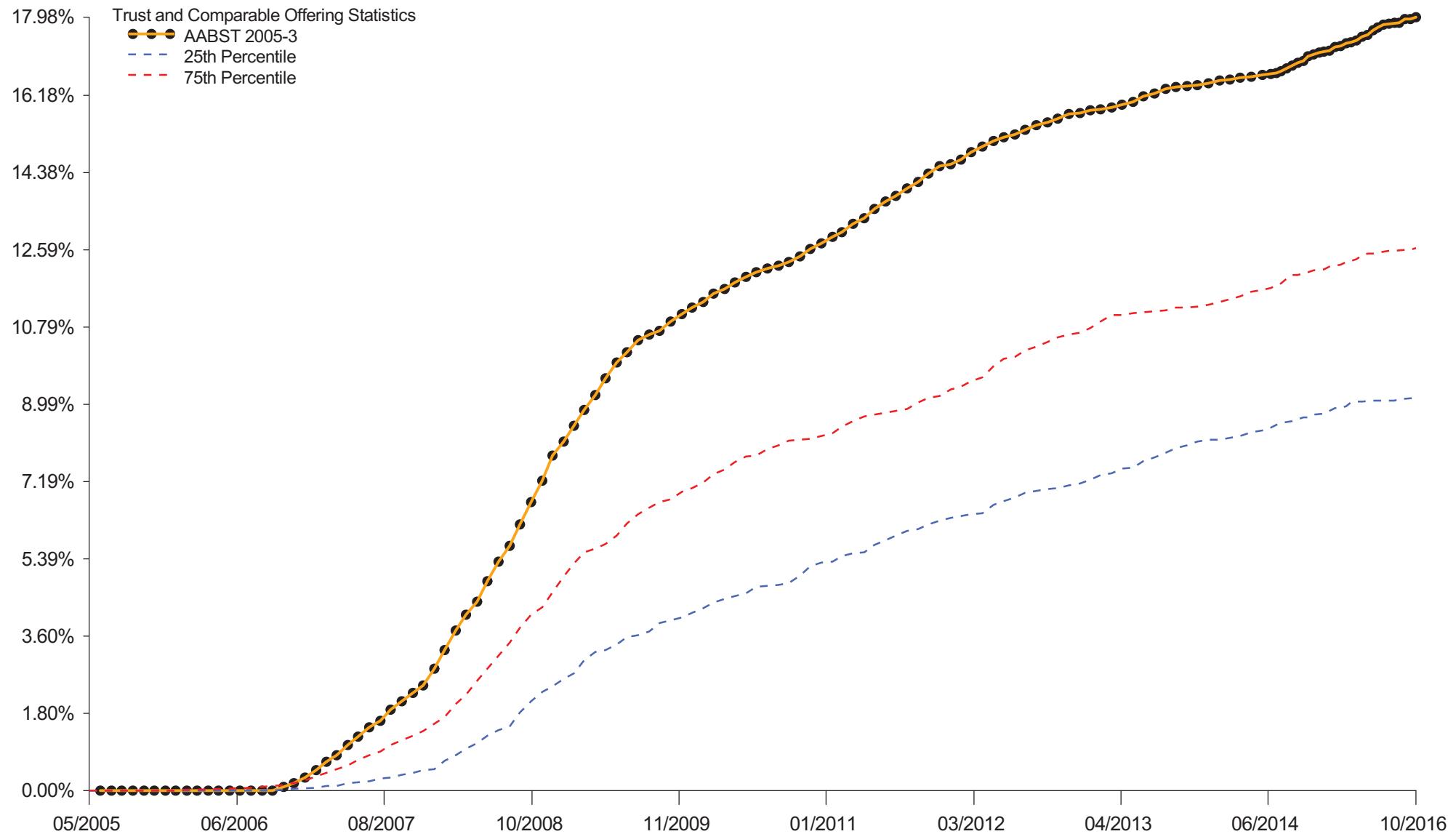
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# AABST 2005-3 Cumulative Net Loss Percentage

## May 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] AABST 2005-3 has an asset type of Subprime. Summary statistics for the comparable trusts are based on 74 trusts issued within one month of the closing date of AABST 2005-3 that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Aegis Asset Backed Securities Trust or Lehman Brothers or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

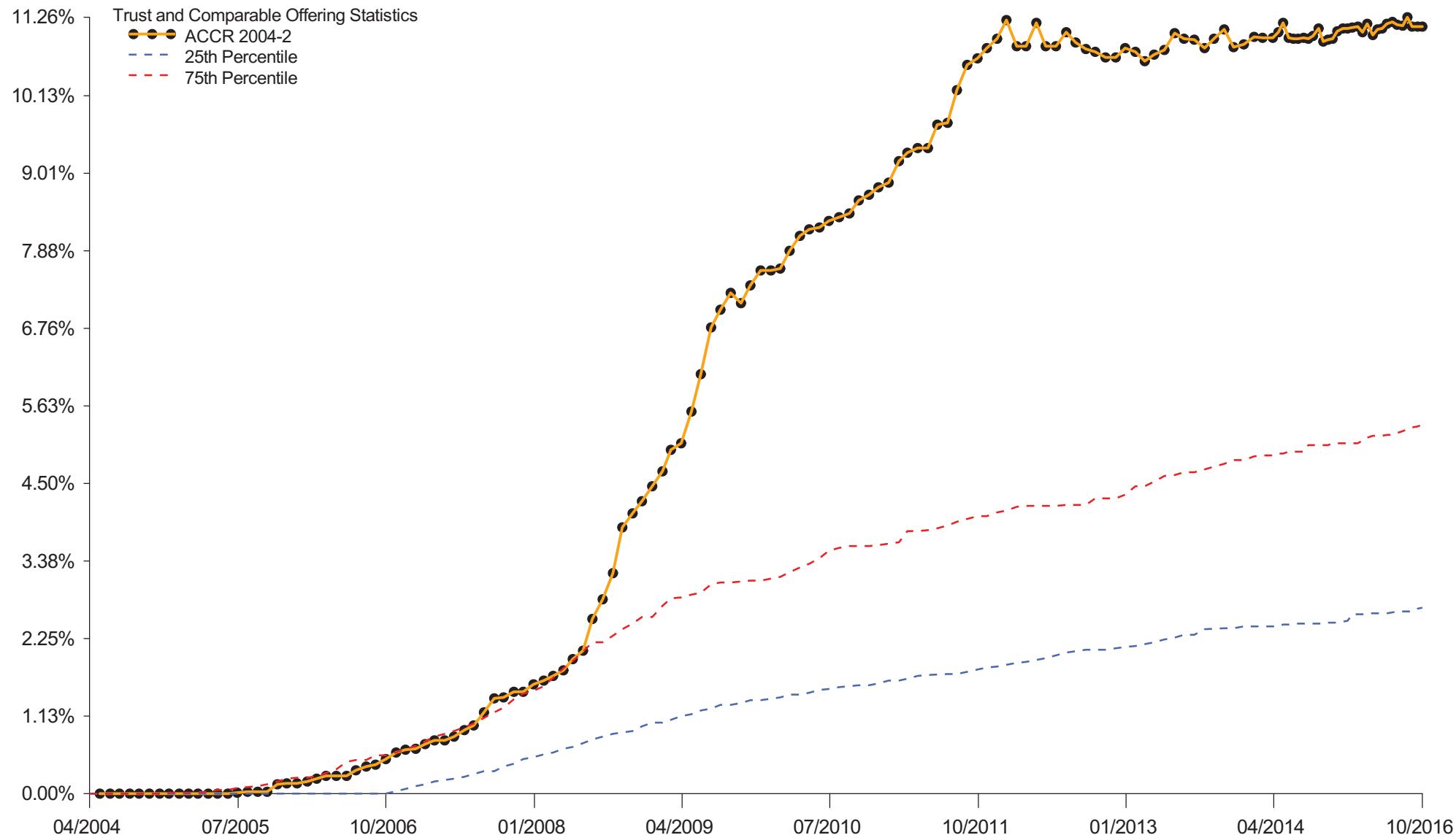
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# ACCR 2004-2 Cumulative Net Loss Percentage

## April 2004 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] ACCR 2004-2 has an asset type of Subprime. Summary statistics for the comparable trusts are based on 59 trusts issued within one month of the closing date of ACCR 2004-2 that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Accredited Mortgage Loan Trust or CS First Boston or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

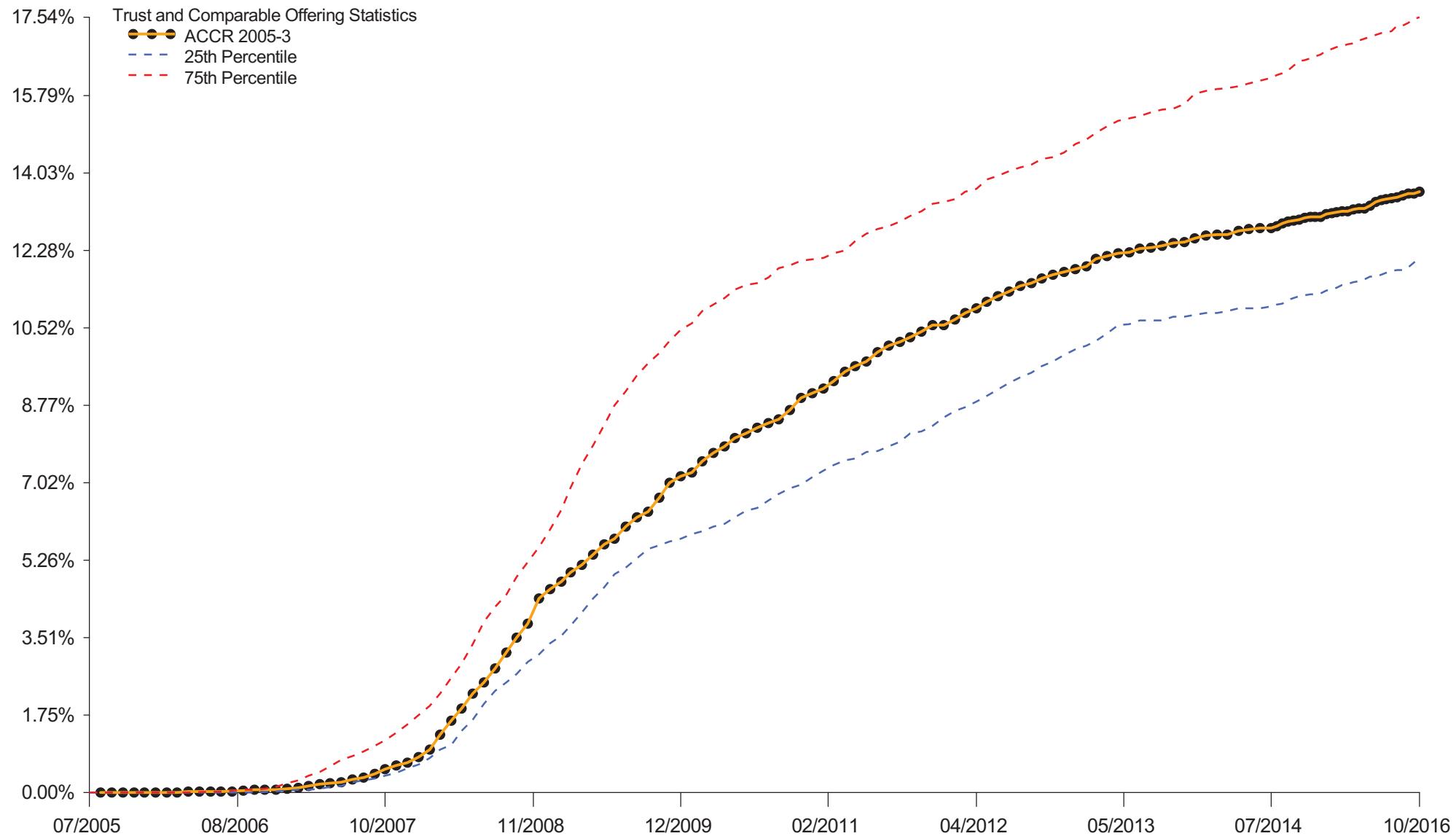
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# ACCR 2005-3 Cumulative Net Loss Percentage

## July 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] ACCR 2005-3 has an asset type of Subprime. Summary statistics for the comparable trusts are based on 82 trusts issued within one month of the closing date of ACCR 2005-3 that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Accredited Mortgage Loan Trust or Morgan Stanley or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

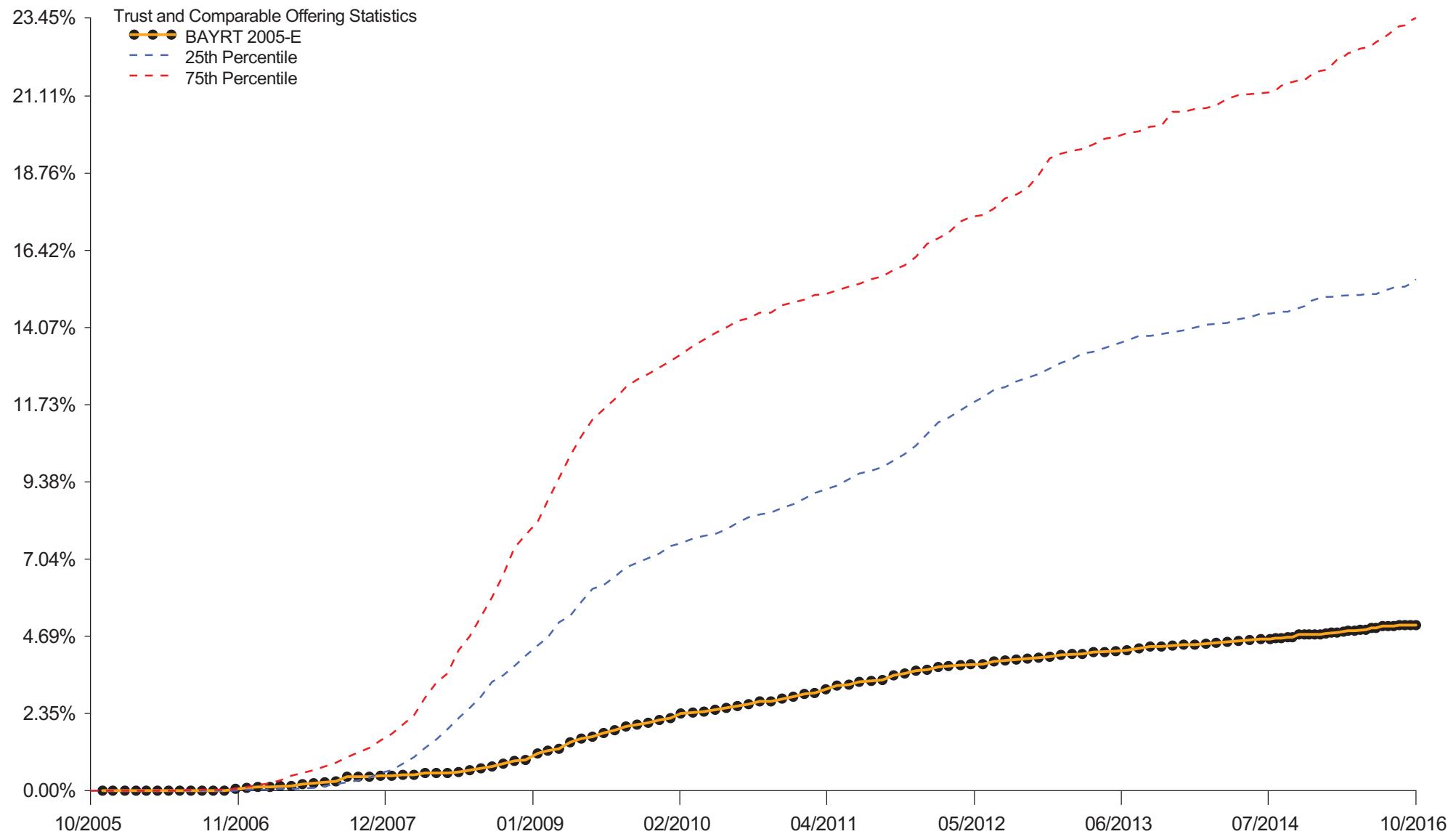
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# BAYRT 2005-E Cumulative Net Loss Percentage

## October 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] BAYRT 2005-E has an asset type of Scratch & Dent. Summary statistics for the comparable trusts are based on 106 trusts issued within one month of the closing date of BAYRT 2005-E that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by BayView Financial Acquisition Trust or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

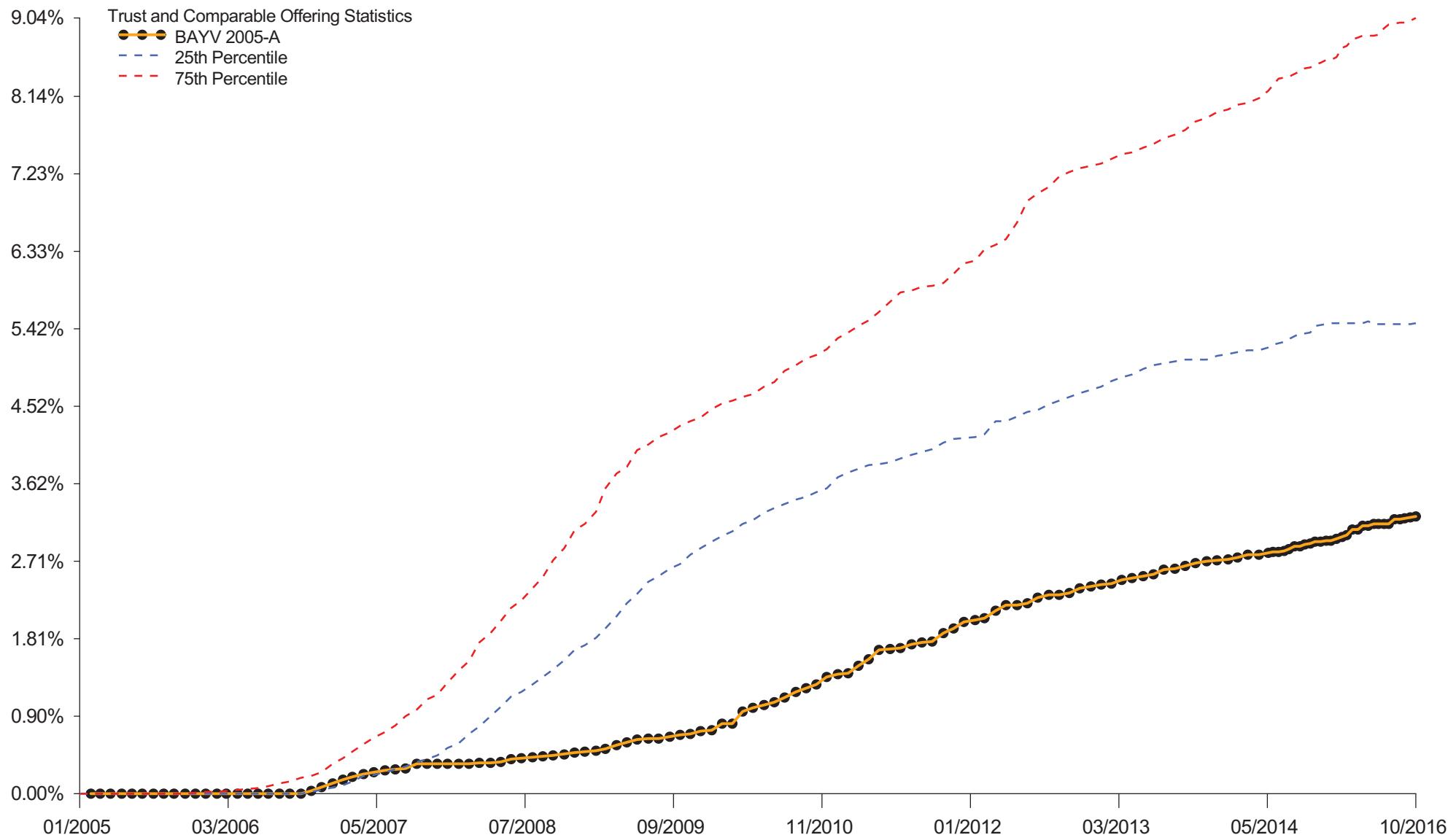
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# BAYV 2005-A Cumulative Net Loss Percentage

## January 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] BAYV 2005-A has an asset type of Scratch & Dent. Summary statistics for the comparable trusts are based on 61 trusts issued within one month of the closing date of BAYV 2005-A that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by BayView Financial Acquisition Trust or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

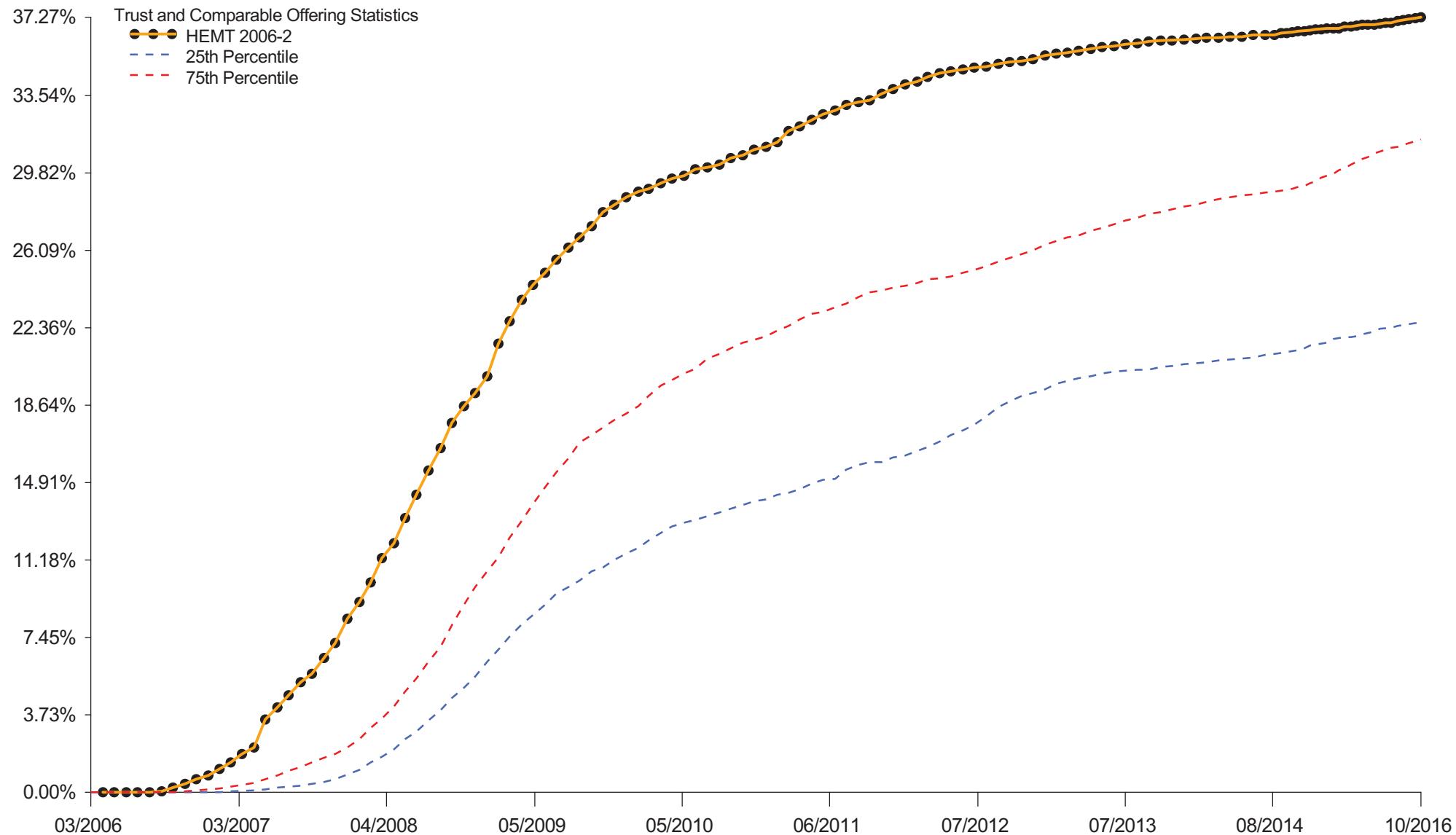
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# HEMT 2006-2 Cumulative Net Loss Percentage

## March 2006 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] HEMT 2006-2 has an asset type of Second Lien. Summary statistics for the comparable trusts are based on 100 trusts issued within one month of the closing date of HEMT 2006-2 that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by CS First Boston Home Equity Mortgage Trust or CS First Boston or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

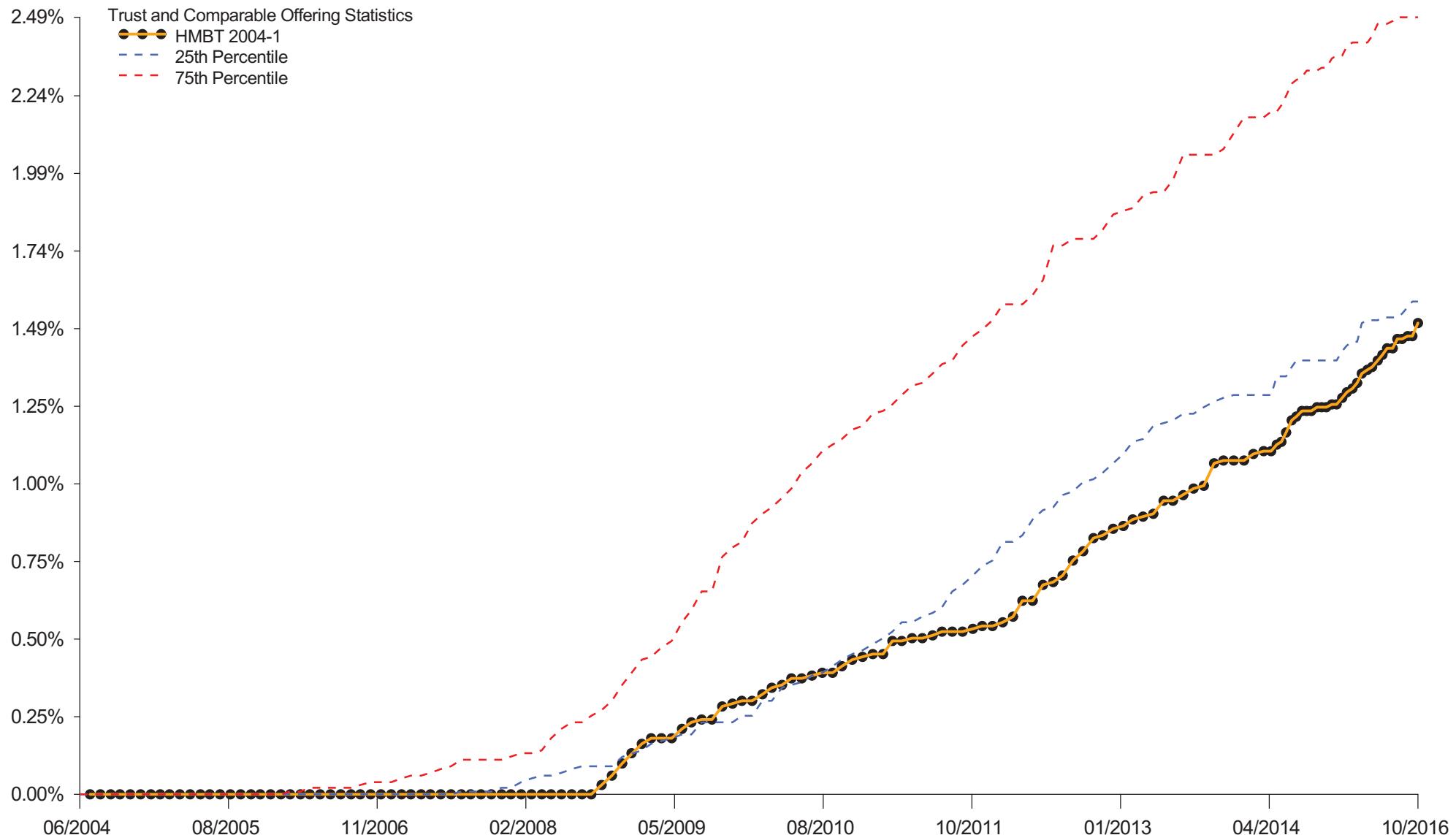
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# HMBT 2004-1 Cumulative Net Loss Percentage

## June 2004 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] HMBT 2004-1 has an asset type of Alt-A. Summary statistics for the comparable trusts are based on 61 trusts issued within one month of the closing date of HMBT 2004-1 that have an asset type of Alt-A (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by HomeBanc Mortgage Trust or Bear Stearns & Co. Inc. or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

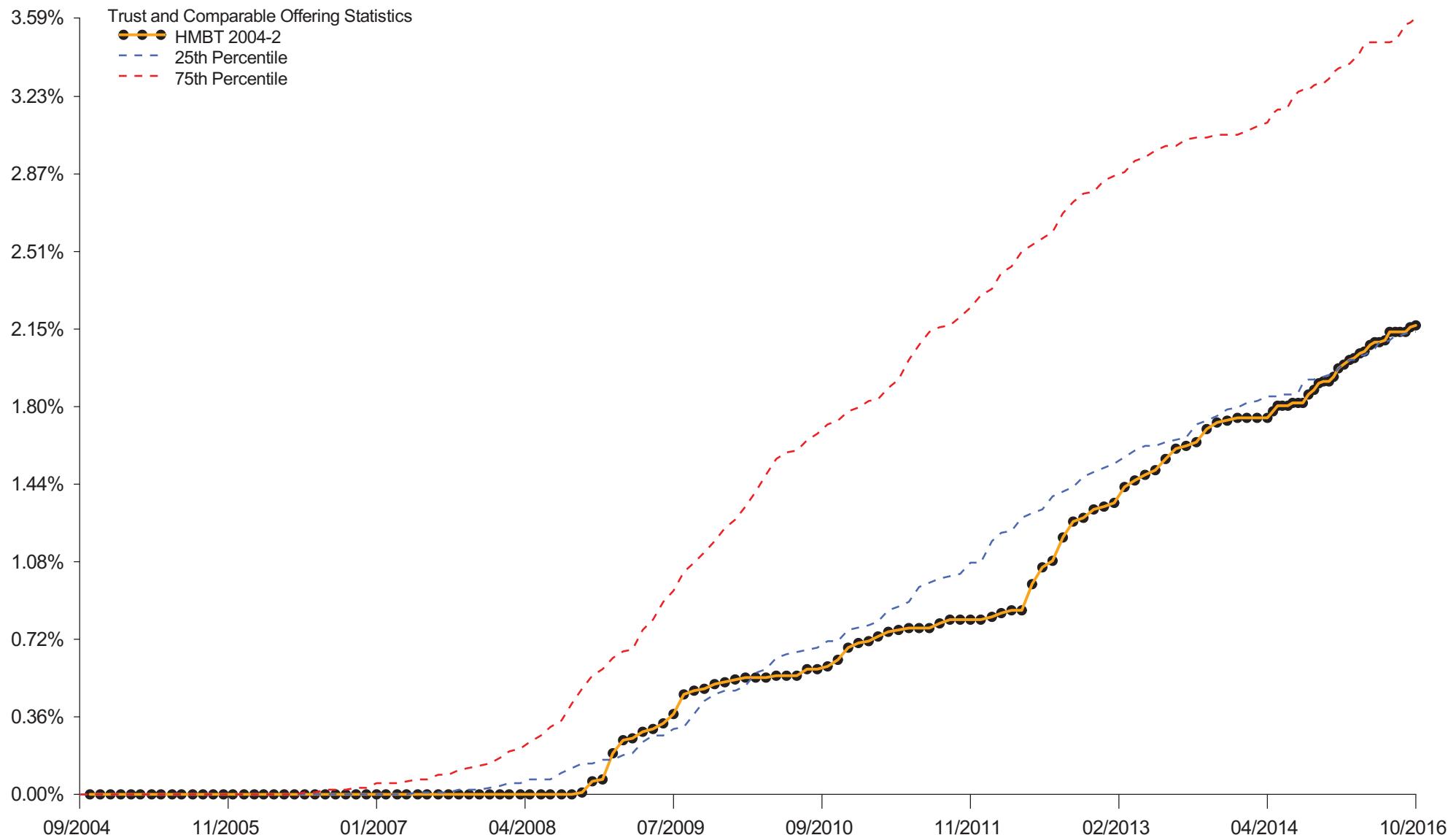
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# HMBT 2004-2 Cumulative Net Loss Percentage

## September 2004 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] HMBT 2004-2 has an asset type of Alt-A. Summary statistics for the comparable trusts are based on 72 trusts issued within one month of the closing date of HMBT 2004-2 that have an asset type of Alt-A (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by HomeBanc Mortgage Trust or Bear Stearns & Co. Inc. or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

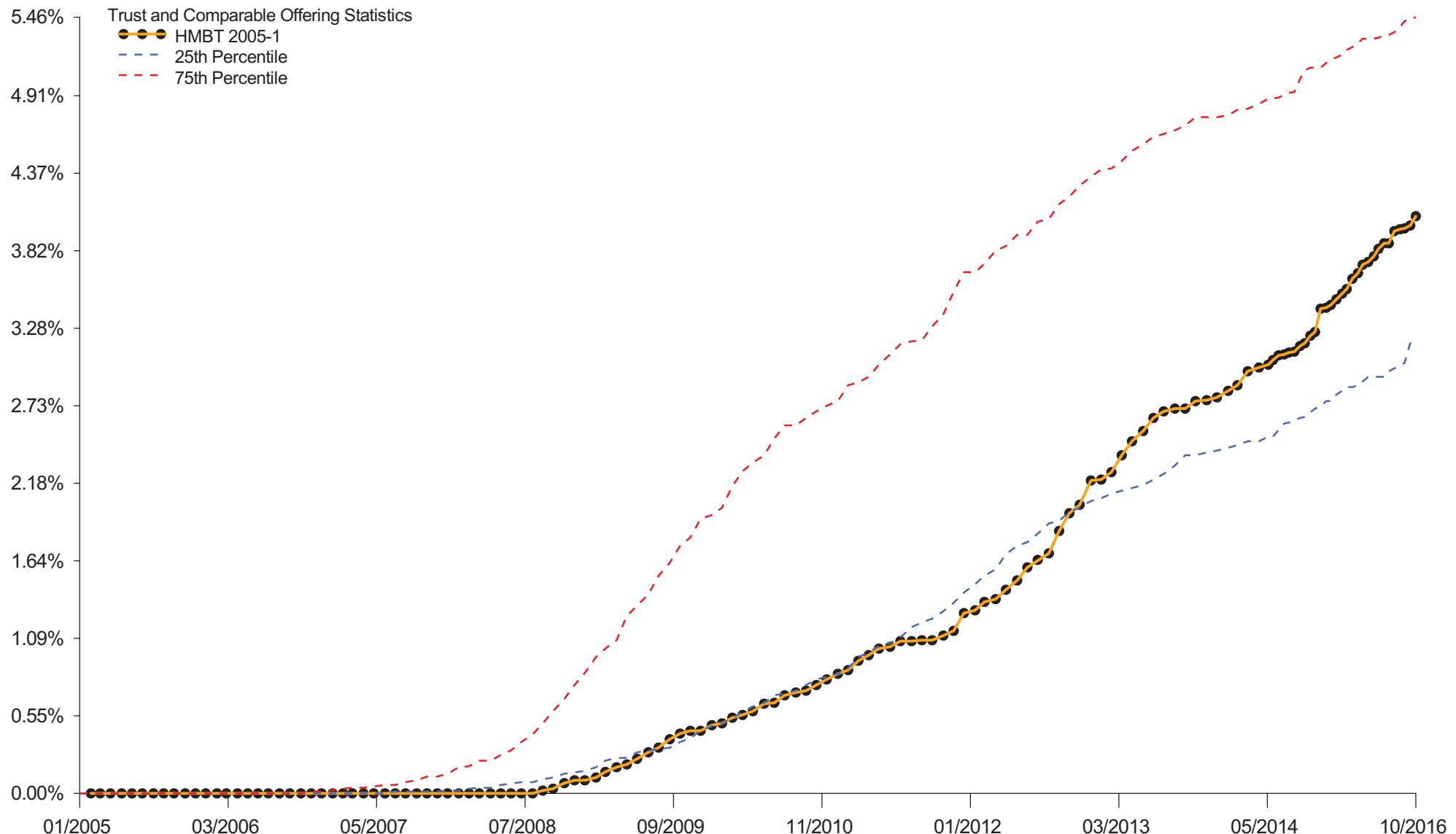
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# HMBT 2005-1 Cumulative Net Loss Percentage

## January 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] HMBT 2005-1 has an asset type of Alt-A. Summary statistics for the comparable trusts are based on 79 trusts issued within one month of the closing date of HMBT 2005-1 that have an asset type of Alt-A (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by HomeBanc Mortgage Trust or Bear Stearns & Co. Inc. or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

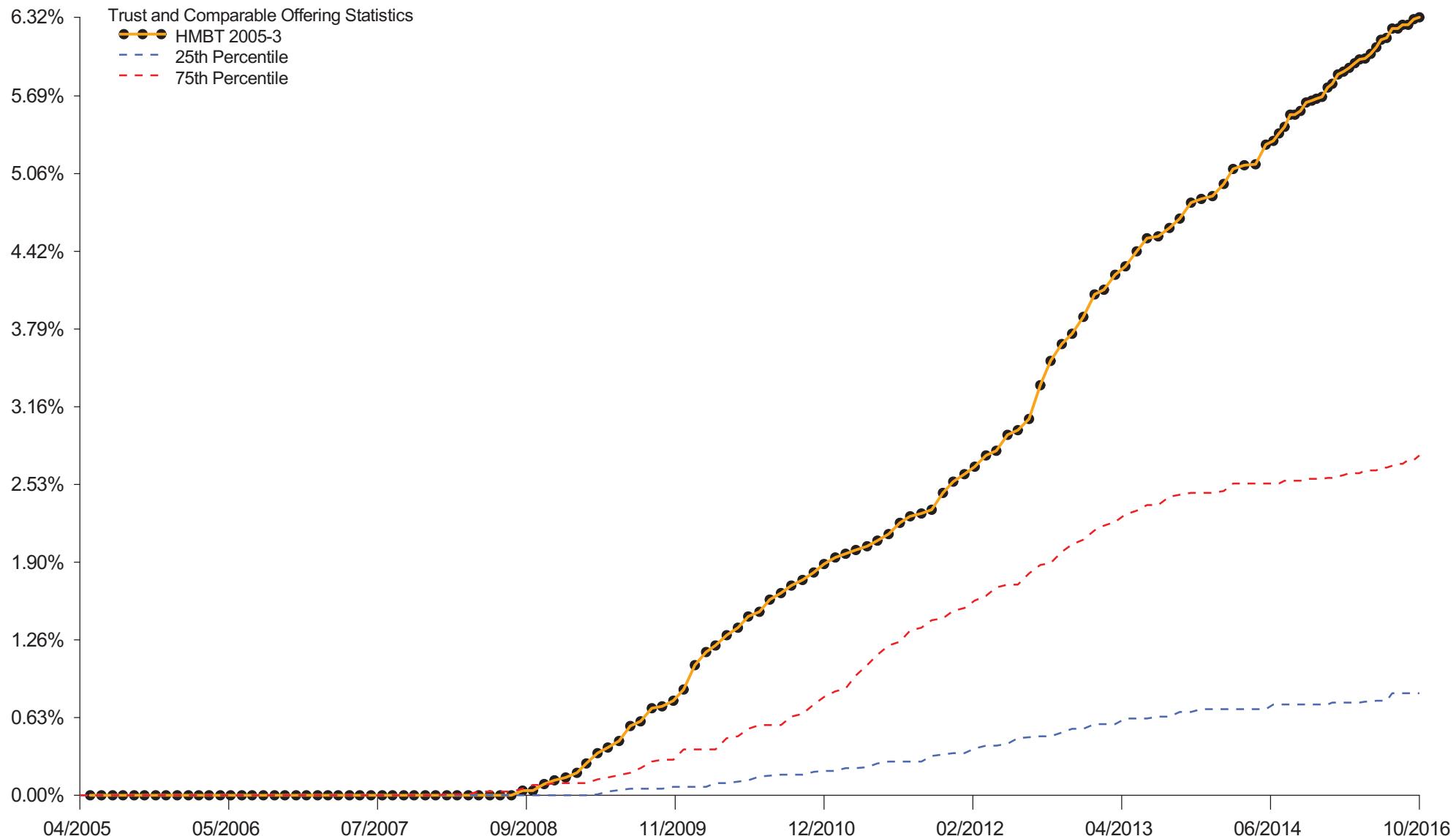
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# HMBT 2005-3 Cumulative Net Loss Percentage

## April 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] HMBT 2005-3 has an asset type of Prime. Summary statistics for the comparable trusts are based on 45 trusts issued within one month of the closing date of HMBT 2005-3 that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by HomeBanc Mortgage Trust or Bear Stearns & Co. Inc. or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

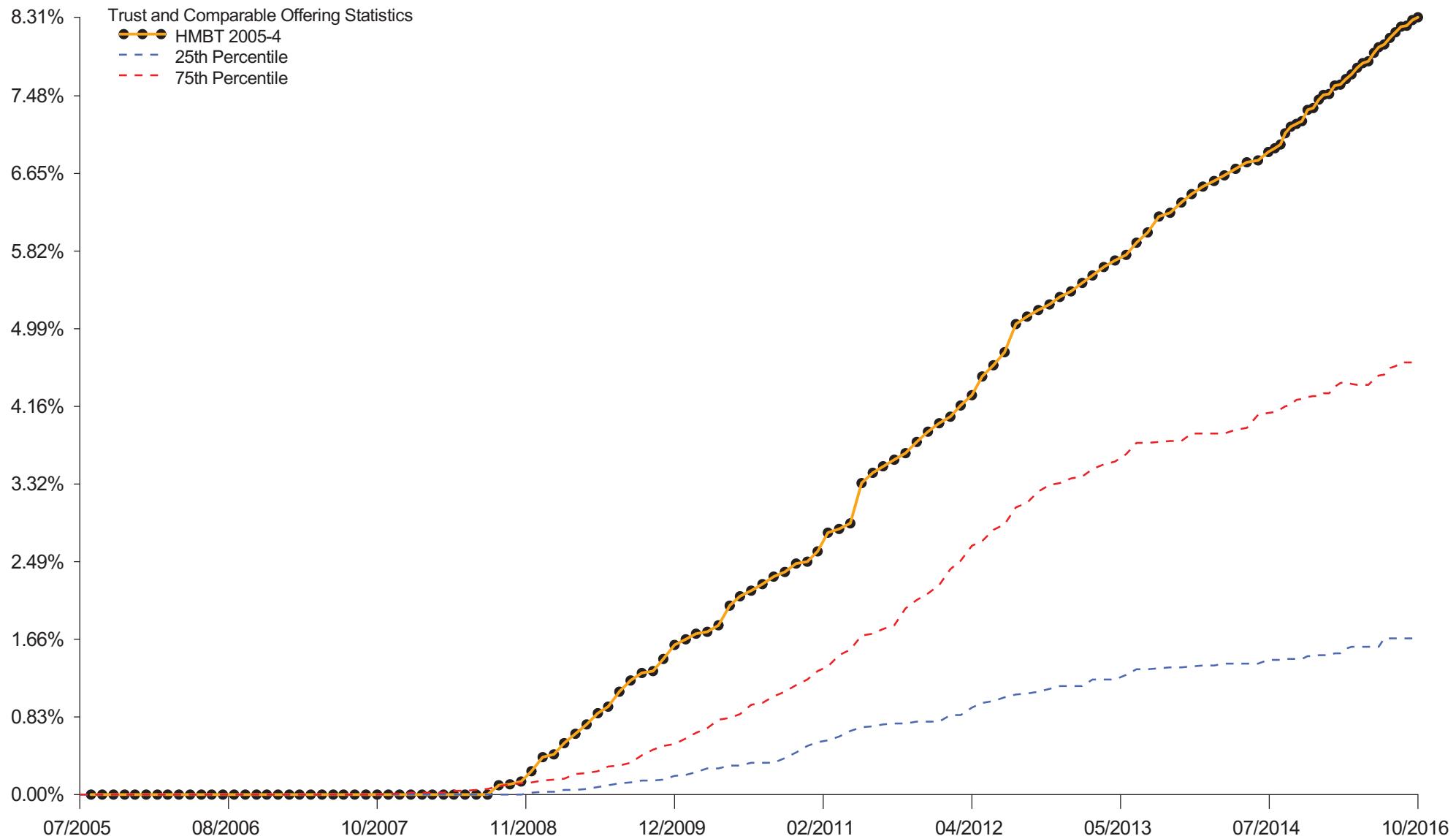
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# HMBT 2005-4 Cumulative Net Loss Percentage

## July 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] HMBT 2005-4 has an asset type of Prime. Summary statistics for the comparable trusts are based on 49 trusts issued within one month of the closing date of HMBT 2005-4 that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by HomeBanc Mortgage Trust or Bear Stearns & Co. Inc. or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

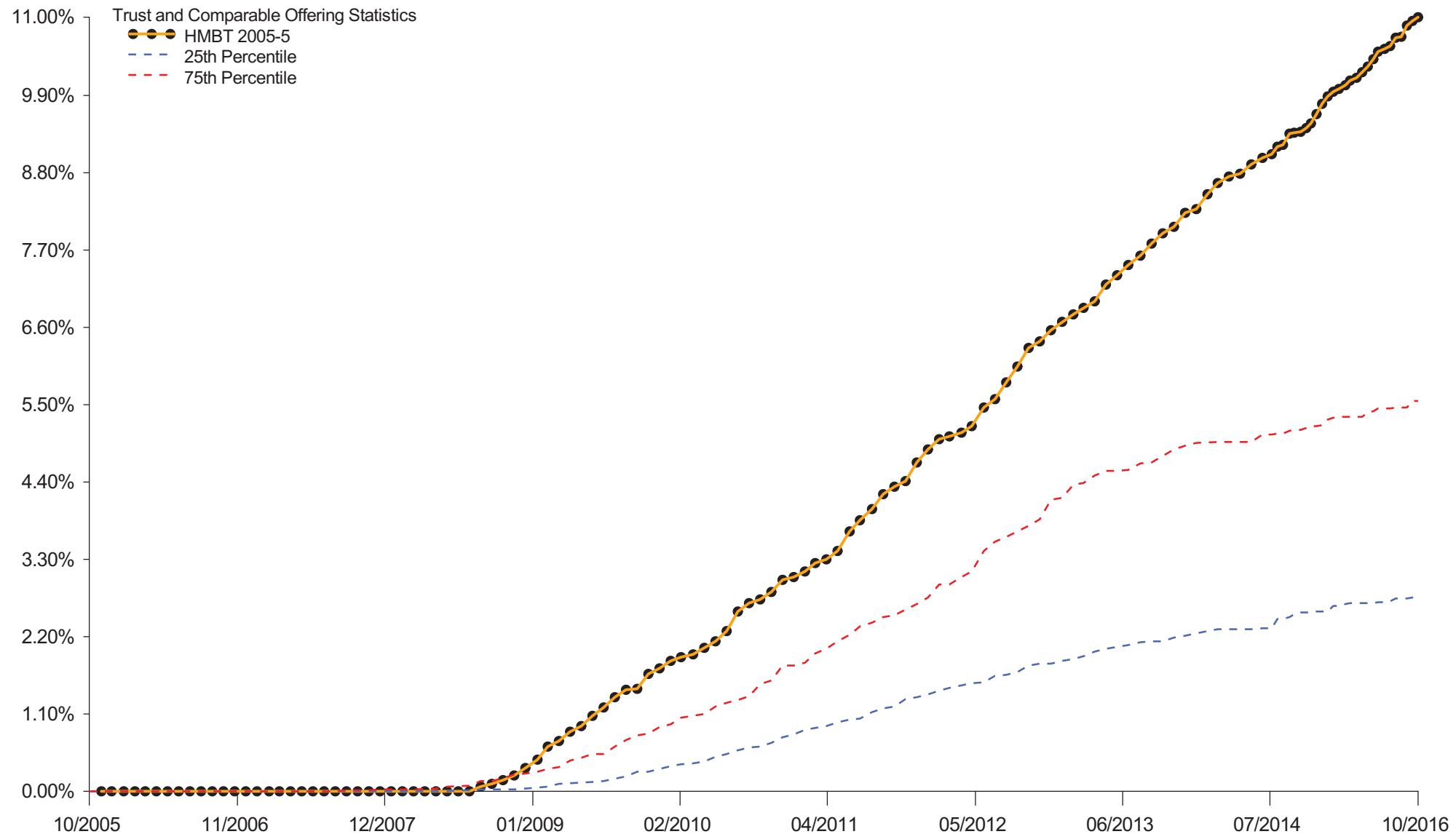
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# HMBT 2005-5 Cumulative Net Loss Percentage

## October 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] HMBT 2005-5 has an asset type of Prime. Summary statistics for the comparable trusts are based on 46 trusts issued within one month of the closing date of HMBT 2005-5 that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by HomeBanc Mortgage Trust or Bear Stearns & Co. Inc. or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

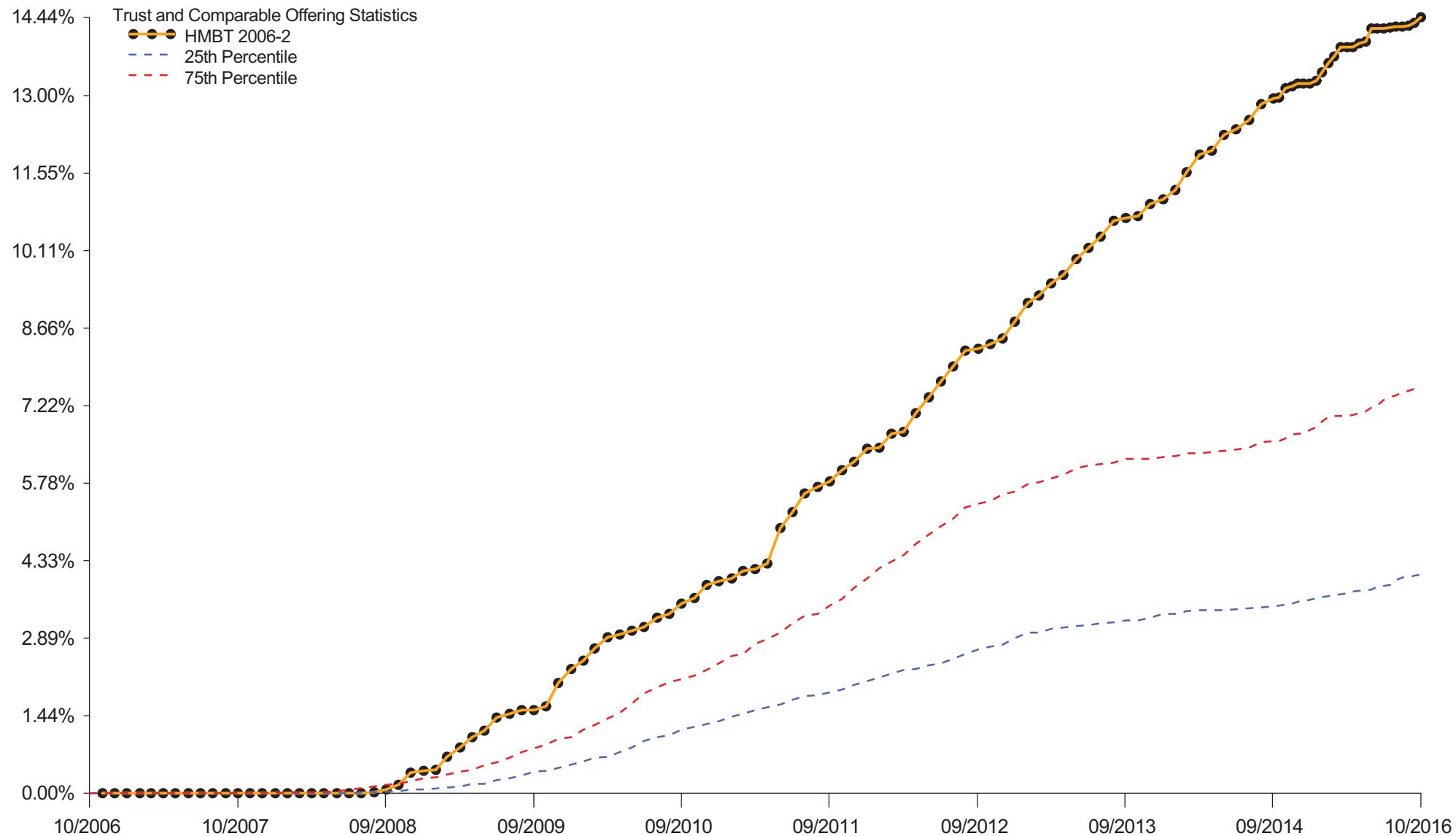
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# HMBT 2006-2 Cumulative Net Loss Percentage

## October 2006 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] HMBT 2006-2 has an asset type of Prime. Summary statistics for the comparable trusts are based on 30 trusts issued within one month of the closing date of HMBT 2006-2 that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by HomeBanc Mortgage Trust or Bear Stearns & Co. Inc. or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

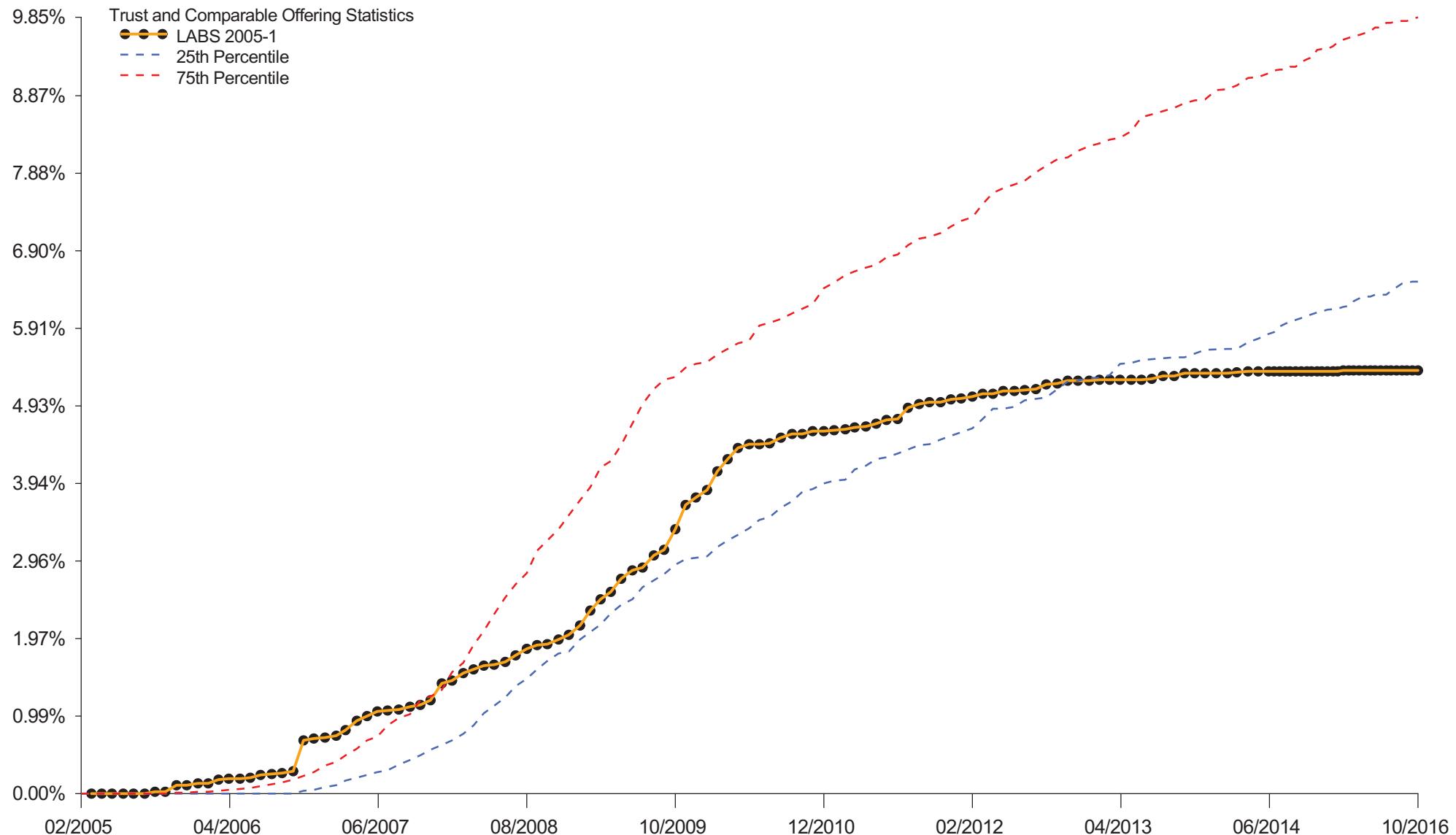
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# LABS 2005-1 Cumulative Net Loss Percentage

## February 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] LABS 2005-1 has an asset type of HELOC. Summary statistics for the comparable trusts are based on 61 trusts issued within one month of the closing date of LABS 2005-1 that have an asset type of Subprime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Lehman Brothers Mortgage Loan Trust or Lehman Brothers or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

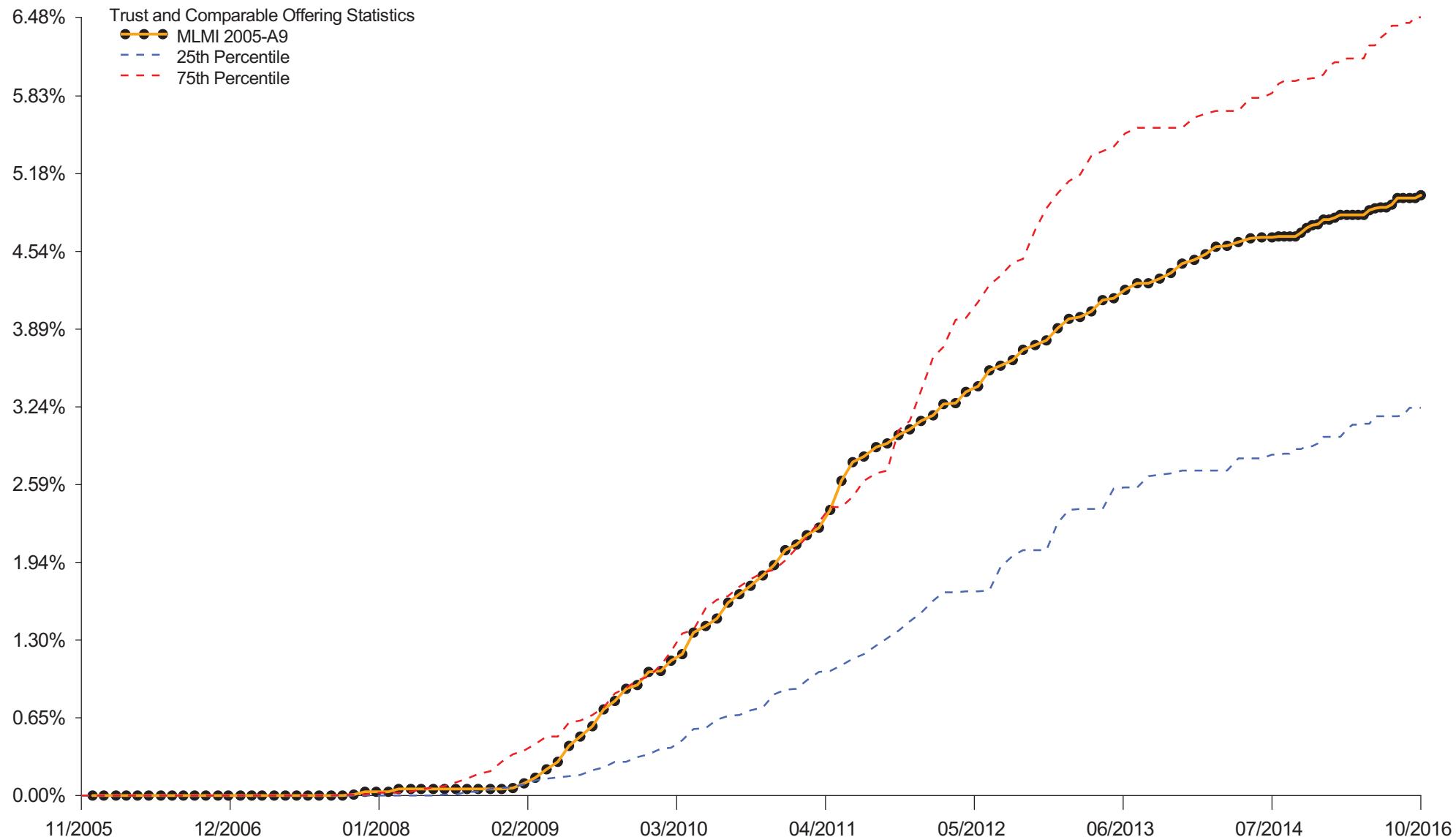
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# MLMI 2005-A9 Cumulative Net Loss Percentage

## November 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] MLMI 2005-A9 has an asset type of Prime. Summary statistics for the comparable trusts are based on 42 trusts issued within one month of the closing date of MLMI 2005-A9 that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Merrill Lynch Mortgage Investors Inc. or Merrill Lynch & Co. Inc. or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

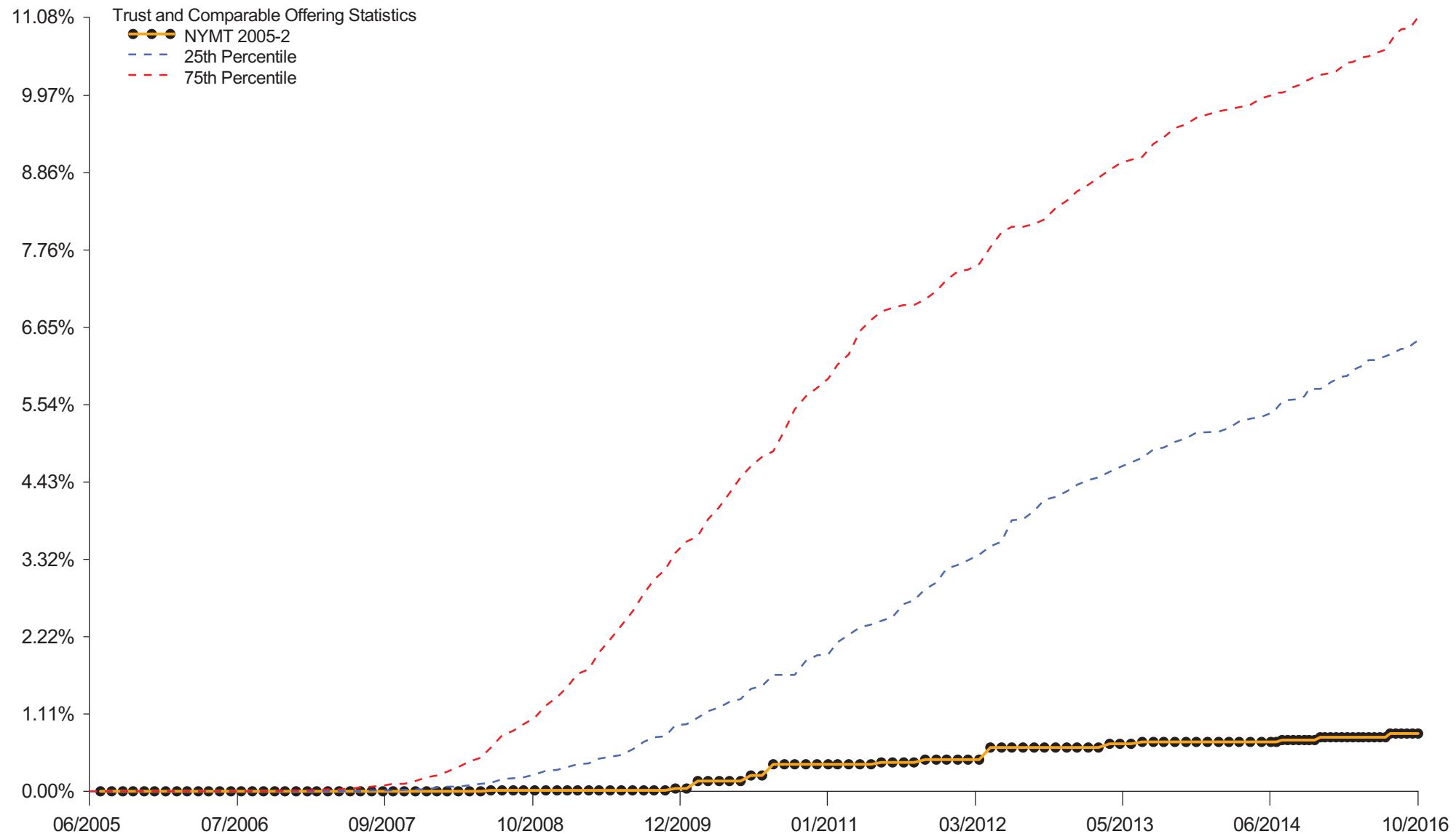
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# NYMT 2005-2 Cumulative Net Loss Percentage

## June 2005 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] NYMT 2005-2 has an asset type of Alt-A. Summary statistics for the comparable trusts are based on 91 trusts issued within one month of the closing date of NYMT 2005-2 that have an asset type of Alt-A (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by New York Mortgage Trust or RBS or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

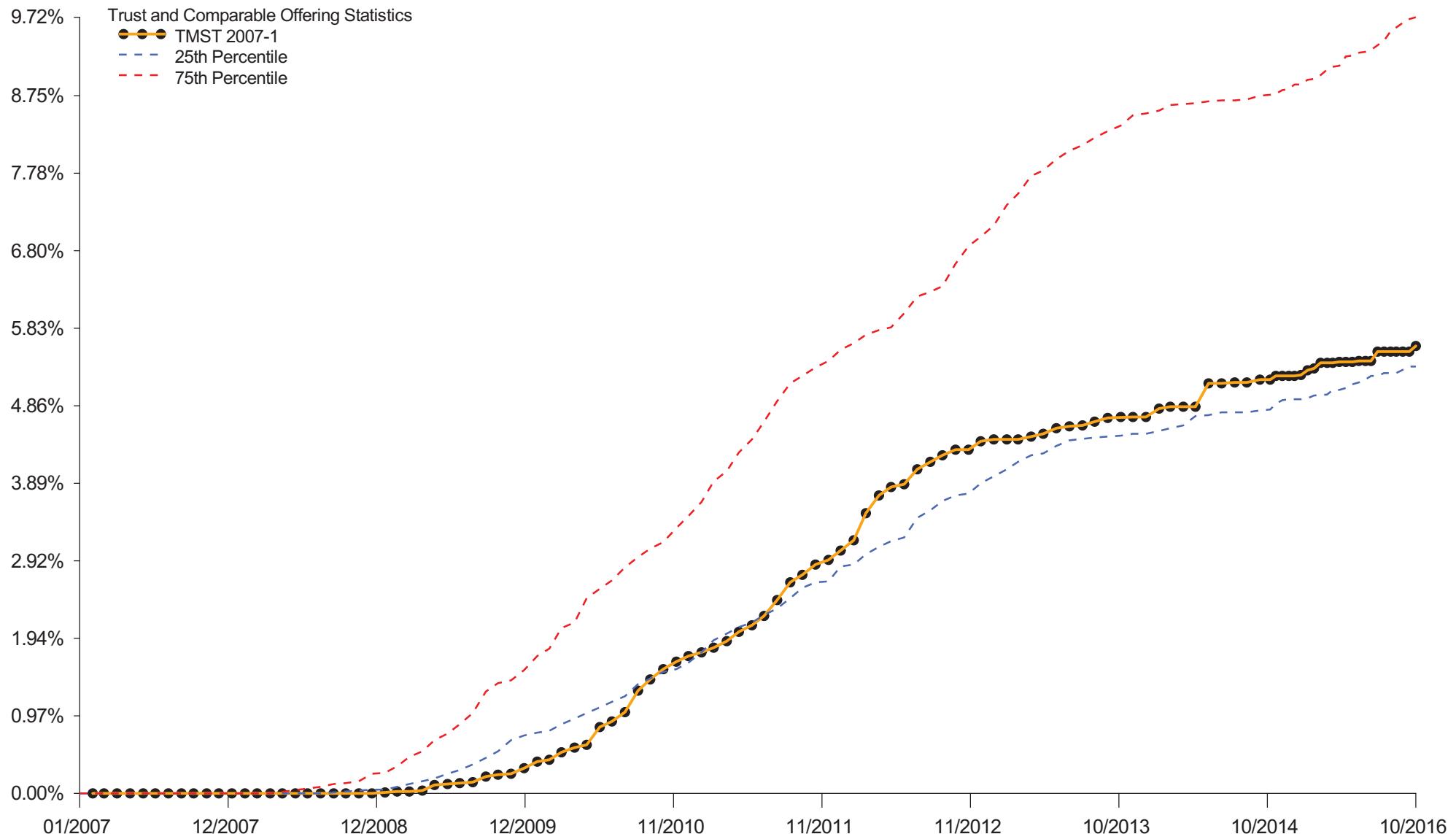
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# TMST 2007-1 Cumulative Net Loss Percentage

## January 2007 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] TMST 2007-1 has an asset type of Prime. Summary statistics for the comparable trusts are based on 36 trusts issued within one month of the closing date of TMST 2007-1 that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Thornburg Mortgage Securities Trust or Lehman Brothers or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

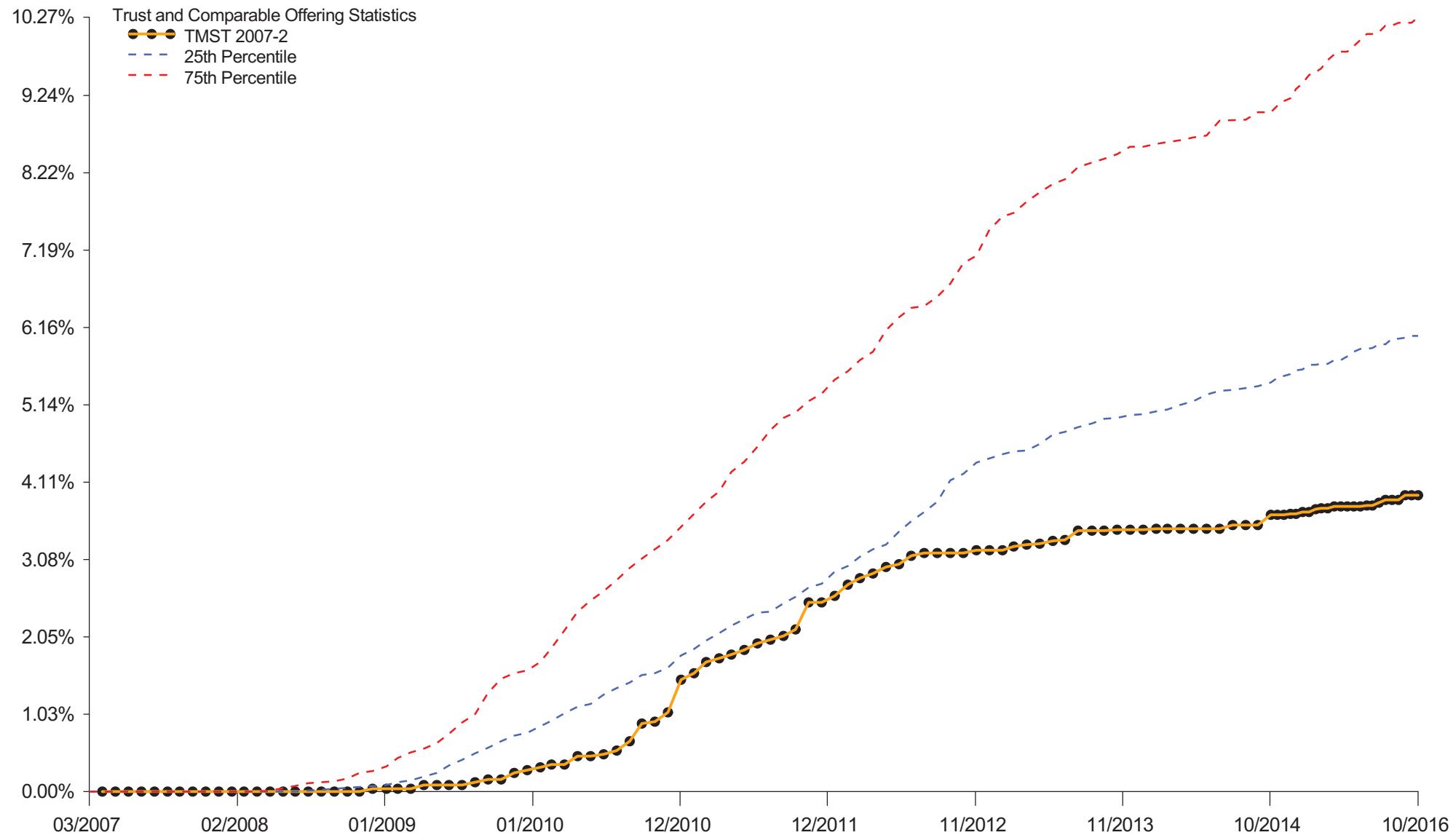
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# TMST 2007-2 Cumulative Net Loss Percentage

## March 2007 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] TMST 2007-2 has an asset type of Prime. Summary statistics for the comparable trusts are based on 48 trusts issued within one month of the closing date of TMST 2007-2 that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Thornburg Mortgage Securities Trust or Lehman Brothers or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

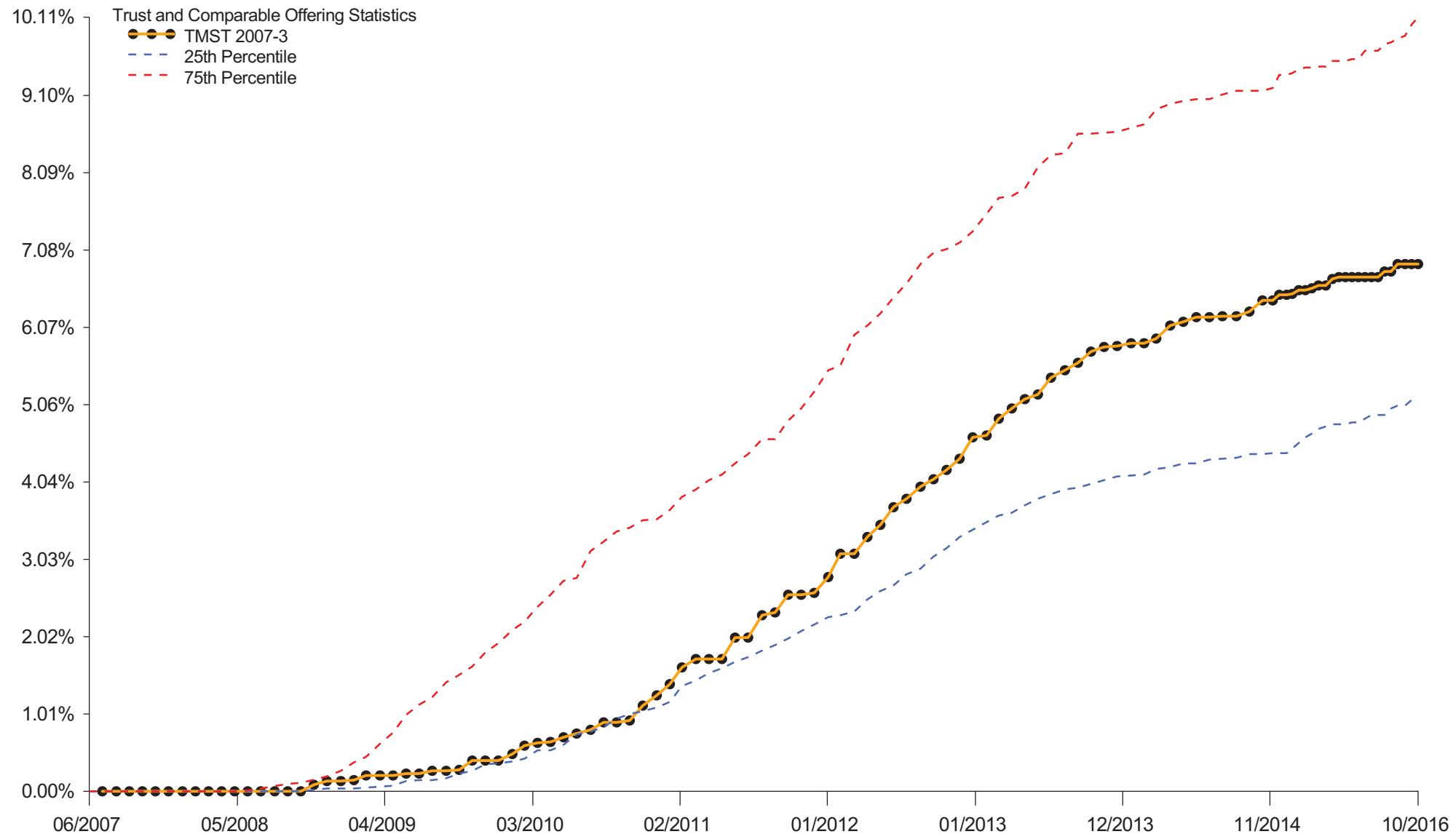
[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 17**

# TMST 2007-3 Cumulative Net Loss Percentage

## June 2007 – October 2016

% Net Loss



Source: ABSNet Loan

Note:

[1] TMST 2007-3 has an asset type of Prime. Summary statistics for the comparable trusts are based on 44 trusts issued within one month of the closing date of TMST 2007-3 that have an asset type of Prime (as defined by ABSNet Loan), are not issued or underwritten (according to ABSNet Loan) by Thornburg Mortgage Securities Trust or Bear Stearns & Co. Inc. or its subsidiaries.

[2] Only loans for which a liquidation, principal forgiveness, or capitalization has occurred are included.

[3] Cumulative Net Loss Percentage is calculated as the cumulative gain/loss amount net of recoveries divided by the original principal balance of the trust.

**Exhibit 18**  
**Time to First Downgrade**  
**AABST 2004-6**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>IA1</b>	S&P	12/30/04	AAA			
	Moody's	3/7/05	Aaa			
<b>IA2</b>	S&P	12/30/04	AAA			
	Moody's	3/7/05	Aaa			
<b>IA3</b>	S&P	12/30/04	AAA			
	Moody's	3/7/05	Aaa			
<b>IIA1</b>	S&P	12/30/04	AAA			
	Moody's	3/7/05	Aaa			
<b>IIA2</b>	S&P	12/30/04	AAA			
	Moody's	3/7/05	Aaa			
<b>M1</b>	S&P	12/30/04	AA	10/11/12	BB+	94
	Moody's	3/7/05	Aa2	7/24/13	Baa3	100
<b>M2</b>	S&P	12/30/04	A+	9/30/09	A-	57
	Moody's	3/7/05	A2	5/1/09	Baa3	50
<b>M3</b>	S&P	12/30/04	A	10/13/08	BBB-	46
	Moody's	3/7/05	A3	5/1/09	B3	50
<b>B1</b>	S&P	12/30/04	A-	10/13/08	BB-	46
	Moody's	3/7/05	Baa1	5/1/09	C	50
<b>B2</b>	S&P	12/30/04	BBB+	10/15/07	BBB	34
	Moody's	3/7/05	Baa2	12/3/07	Ba1	33
<b>B3</b>	S&P	12/30/04	BBB	10/15/07	B+	34
	Moody's	3/7/05	Baa3	12/3/07	Ba2	33
<b>N</b>	S&P	12/30/04	BBB	2/11/08	CCC	38
	Moody's					

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**AABST 2005-1**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
IA1	S&P	2/28/05	AAA			
	Moody's					
	Fitch	2/25/05	AAA			
IA2	S&P	2/28/05	AAA			
	Moody's	3/14/05	Aaa			
	Fitch	2/25/05	AAA			
IA3	S&P	2/28/05	AAA			
	Moody's	3/14/05	Aaa			
	Fitch	2/25/05	AAA			
IIA1	S&P	2/28/05	AAA			
	Moody's	3/14/05	Aaa			
	Fitch	2/25/05	AAA			
IIA2	S&P	2/28/05	AAA			
	Moody's	3/14/05	Aaa			
	Fitch	2/25/05	AAA			
M1	S&P	2/28/05	AA+			
	Moody's	3/14/05	Aa1	8/13/10	Aaa	65
	Fitch	2/25/05	AA+	4/5/12	A	86
M2	S&P	2/28/05	AA			
	Moody's	3/14/05	Aa2	7/18/11	A3	76
	Fitch	2/25/05	AA	3/27/08	A	37
M3	S&P	2/28/05	AA	10/11/12	BBB+	92
	Moody's	3/14/05	Aa3	3/13/09	A3	48
	Fitch	2/25/05	AA-	3/27/08	BB	37
M4	S&P	2/28/05	AA-	9/23/11	BBB+	79
	Moody's	3/14/05	A1	3/13/09	Ba1	48
	Fitch	2/25/05	A+	3/27/08	B	37
M5	S&P	2/28/05	A+	9/17/09	BB	55
	Moody's	3/14/05	A2	10/31/08	Baa2	43
	Fitch	2/25/05	A	3/27/08	B	37
M6	S&P	2/28/05	A	7/23/08	BBB	41
	Moody's	3/14/05	A3	12/3/07	Baa2	33
	Fitch	2/25/05	A-	9/6/07	BB	31
B1	S&P	2/28/05	A-	7/23/08	B	41
	Moody's	3/14/05	Baa1	12/3/07	Baa3	33
	Fitch	2/25/05	BBB+	9/6/07	B+	31
B2	S&P	2/28/05	BBB+	7/23/08	CCC	41
	Moody's	3/14/05	Baa2	12/3/07	Ba1	33
	Fitch	2/25/05	BBB	9/6/07	B	31
B3	S&P	2/28/05	BBB	7/23/08	CCC	41
	Moody's	3/14/05	Baa3	12/3/07	Ba3	33
	Fitch	2/25/05	BBB-	9/6/07	CCC	31
N1	S&P	2/28/05	A			
	Moody's					
N2	S&P	2/28/05	BBB	3/2/10	CCC	61
	Moody's					
Fitch						

**Exhibit 18**  
**Time to First Downgrade**  
**AABST 2005-3**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A1</b>	S&P	6/30/05	AAA			
	Moody's	7/14/05	Aaa			
<b>A2</b>	S&P	6/30/05	AAA			
	Moody's	7/14/05	Aaa			
<b>A3</b>	S&P	6/30/05	AAA			
	Moody's	7/14/05	Aaa	7/18/11	Aa2	72
<b>B1</b>	S&P	6/30/05	BBB+	3/6/08	B	33
	Moody's	7/14/05	Baa1	12/17/07	Ba1	29
<b>B2</b>	S&P	6/30/05	BBB	3/6/08	B-	33
	Moody's	7/14/05	Baa2	12/17/07	B1	29
<b>B3</b>	S&P	6/30/05	BBB-	3/6/08	CCC	33
	Moody's	7/14/05	Baa3	12/17/07	B2	29
<b>M1</b>	S&P	6/30/05	AA+	10/16/12	A+	88
	Moody's	7/14/05	Aa1	3/13/09	A1	44
<b>M2</b>	S&P	6/30/05	AA	9/17/09	BBB	51
	Moody's	7/14/05	Aa2	10/31/08	A2	39
<b>M3</b>	S&P	6/30/05	AA-	9/17/09	B-	51
	Moody's	7/14/05	Aa3	10/31/08	Baa2	39
<b>M4</b>	S&P	6/30/05	A+	9/17/09	CC	51
	Moody's	7/14/05	A1	10/31/08	Ba3	39
<b>M5</b>	S&P	6/30/05	A	3/6/08	BBB+	33
	Moody's	7/14/05	A2	12/17/07	Baa1	29
<b>M6</b>	S&P	6/30/05	A-	3/6/08	BB	33
	Moody's	7/14/05	A3	12/17/07	Baa2	29
<b>N1</b>	S&P					
<b>N2</b>	S&P					

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**ACCR 2004-2**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A-1</b>	S&P	5/28/04	AAA	2/26/08	A	45
	Moody's	7/15/04	Aaa	2/14/08	A3	43
<b>A-2</b>	S&P	5/28/04	AAA	2/26/08	A	45
	Moody's	7/15/04	Aaa	2/14/08	A3	43

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**ACCR 2005-3**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A-1</b>	S&P	8/29/05	AAA	2/8/13	BB	90
	Moody's	9/7/05	Aaa	6/1/10	A1	57
<b>A-2A</b>	S&P	8/29/05	AAA			
	Moody's	9/7/05	Aaa			
<b>A-2B</b>	S&P	8/29/05	AAA			
	Moody's	9/7/05	Aaa			
<b>A-2C</b>	S&P	8/29/05	AAA			
	Moody's	9/7/05	Aaa			
<b>A-2D</b>	S&P	8/29/05	AAA	2/8/13	BB	90
	Moody's	9/7/05	Aaa	3/17/09	Aa2	42
<b>M-1</b>	S&P	8/29/05	AA+	2/8/13	CCC	90
	Moody's	9/7/05	Aa1	3/17/09	A3	42
<b>M-2</b>	S&P	8/29/05	AA+	10/21/11	AA	74
	Moody's	9/7/05	Aa2	3/17/09	Ba1	42
<b>M-3</b>	S&P	8/29/05	AA	10/21/11	B+	74
	Moody's	9/7/05	Aa3	3/17/09	B1	42
<b>M-4</b>	S&P	8/29/05	AA-	10/21/11	CCC	74
	Moody's	9/7/05	A1	10/31/08	A2	37
<b>M-5</b>	S&P	8/29/05	A+	7/23/08	BBB	35
	Moody's	9/7/05	A2	10/31/08	Baa1	37
<b>M-6</b>	S&P	8/29/05	A	7/23/08	B	35
	Moody's	9/7/05	A3	4/21/08	Baa1	31
<b>M-7</b>	S&P	8/29/05	A-	7/23/08	CCC	35
	Moody's	9/7/05	Baa1	4/21/08	Ba1	31
<b>M-8</b>	S&P	8/29/05	BBB+	4/24/08	BBB	32
	Moody's	9/7/05	Baa2	4/21/08	B2	31
<b>M-9</b>	S&P	8/29/05	BBB	4/24/08	BB	32
	Moody's	9/7/05	Baa3	4/21/08	Caa1	31

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**BAYV 2005-A**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
A1	Fitch	5/25/05	AAA	11/19/10	BB	66
A2A	Fitch	5/25/05	AAA	11/19/10	BB	66
A2B	Fitch	5/25/05	AAA	11/19/10	B	66
M1	Fitch	5/25/05	AA	11/19/10	CCC	66
M2	Fitch	5/25/05	A	11/19/10	CC	66
M3	Fitch	5/25/05	A-	11/19/10	CC	66
B1	Fitch	5/25/05	BBB+	11/19/10	C	66
B2	Fitch	5/25/05	BBB	11/19/10	C	66
R	Fitch					

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**BAYRT 2005-E**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
A1	Fitch	12/16/05	AAA	11/19/10	BB	59
A2A	Fitch	12/16/05	AAA	11/19/10	BB	59
A2B	Fitch	12/16/05	AAA	11/19/10	B	59
M1	Fitch	12/16/05	AA	11/19/10	CCC	59
M2	Fitch	12/16/05	A	11/19/10	CC	59
M3	Fitch	12/16/05	A-	11/19/10	CC	59
B1	Fitch	12/16/05	BBB+	11/19/10	C	59
B2	Fitch	12/16/05	BBB	11/19/10	C	59
R	Fitch					

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**GPHE 2004-2**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A-1</b>	S&P	4/29/04	AAA	6/6/08	AA	50
	Moody's	4/30/04	Aaa	6/19/08	Aa3	50
<b>A-2</b>	S&P	4/29/04	AAA	6/6/08	AA	50
	Moody's	4/30/04	Aaa	6/19/08	Aa3	50

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**GPHE 2004-3**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A</b>	S&P	6/29/04	AAA	6/6/08	AA	48
	Moody's	6/29/04	Aaa	6/19/08	Aa3	48

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**HEMT 2006-2**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
1A-1	S&P	5/2/06	AAA	12/20/07	A-	19
	Moody's	5/8/06	Aaa	8/16/07	Aa1	15
	Fitch	4/28/06	AAA	1/14/09	B	33
1A-2	S&P	5/2/06	AAA	12/20/07	A-	19
	Moody's	5/8/06	Aaa	8/16/07	Aa1	15
	Fitch	4/28/06	AAA	9/10/07	A+	17
1A-3	S&P	5/2/06	AAA	12/20/07	A-	19
	Moody's	5/8/06	Aaa	8/16/07	Aa1	15
	Fitch	4/28/06	AAA	9/10/07	A-	17
2A-1	S&P	5/2/06	AAA	2/26/08	A	21
	Moody's	5/8/06	Aaa	2/14/08	A3	21
	Fitch	4/28/06	AAA	2/27/08	AA	22
1M-1	S&P	5/2/06	AA+	12/20/07	BB+	19
	Moody's	5/8/06	Aa1	8/16/07	Aa2	15
	Fitch	4/28/06	AA+	9/10/07	BBB	17
1M-2	S&P	5/2/06	AA	12/20/07	B	19
	Moody's	5/8/06	Aa2	8/16/07	A2	15
	Fitch	4/28/06	AA	9/10/07	BB	17
1M-3	S&P	5/2/06	AA-	12/20/07	CCC	19
	Moody's	5/8/06	Aa3	8/16/07	Baa1	15
	Fitch	4/28/06	AA-	9/10/07	BB-	17
1M-4	S&P	5/2/06	A+	12/20/07	CCC	19
	Moody's	5/8/06	A1	8/16/07	Baa3	15
	Fitch	4/28/06	A+	9/10/07	B	17
1M-5	S&P	5/2/06	A	9/25/07	A-	16
	Moody's	5/8/06	A2	8/16/07	Ba1	15
	Fitch	4/28/06	A	9/10/07	C	17
1M-6	S&P	5/2/06	A-	9/25/07	BB+	16
	Moody's	5/8/06	A3	8/16/07	B1	15
	Fitch	4/28/06	A-	9/10/07	C	17
1M-7	S&P	5/2/06	BBB+	7/19/07	BB+	14
	Moody's	5/8/06	Baa1	8/16/07	Ca	15
	Fitch	4/28/06	BBB+	9/10/07	C	17
1M-8	S&P	5/2/06	BBB	7/19/07	B	14
	Moody's	5/8/06	Baa2	8/16/07	C	15
	Fitch	4/28/06	BBB	9/10/07	C	17
1M-9	S&P	5/2/06	BBB-	7/19/07	CCC	14
	Moody's	5/8/06	Baa3	8/16/07	C	15
	Fitch	4/28/06	BBB-	9/10/07	C	17
1B-1	S&P	5/2/06	BB+	7/19/07	CCC	14
	Moody's	5/8/06	Ba1	6/19/07	B3	13
	Fitch	4/28/06	BBB-	5/14/07	BB-	13
2M-1	S&P	5/2/06	BBB-	9/25/07	BB	16
	Moody's	5/8/06	Baa2	4/1/08	C	23
	Fitch	4/28/06	BBB+	9/11/07	BB-	17
2M-2	S&P					
	Moody's	5/8/06	Baa3	4/1/08	C	23
	Fitch	4/28/06	BBB	9/11/07	B+	17

**Exhibit 18**  
**Time to First Downgrade**  
**HEMT 2006-2**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
1A-R	S&P Moody's Fitch	5/2/06	AAA			
1P	S&P Moody's Fitch	5/2/06	AAA	8/26/08	BB	27
G	S&P Moody's Fitch	5/2/06	AAA	2/26/08	A	21
2A-R	S&P Moody's Fitch	5/2/06	AAA			
2P	S&P Moody's Fitch	5/2/06	AAA	8/26/08	CCC	27
1B-2	S&P	5/2/06	BB	7/19/07	CCC	14
	Moody's Fitch	5/8/06	Ba2	6/19/07	Caa3	13
		4/28/06	BB+	5/14/07	B+	13

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**HMBT 2004-1**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>I-A</b>	S&P	8/3/04	AAA	10/15/12	BB-	98
	Moody's	9/7/04	Aaa	12/24/08	Aa3	51
<b>II-A</b>	S&P	8/3/04	AAA	10/15/12	BB	98
	Moody's	9/7/04	Aaa	12/24/08	Aa1	51
<b>I-M-1</b>	S&P	8/3/04	AA	11/3/09	BBB-	63
	Moody's	9/7/04	Aa2	12/24/08	A3	51
<b>II-M-1</b>	S&P	8/3/04	AA	11/3/09	B-	63
	Moody's	9/7/04	Aa2	12/24/08	A1	51
<b>I-M-2</b>	S&P	8/3/04	A	11/3/09	CCC	63
	Moody's	9/7/04	A2	12/24/08	Ba3	51
<b>II-M-2</b>	S&P	8/3/04	A	11/3/09	CCC	63
	Moody's	9/7/04	A2	12/24/08	Baa3	51
<b>I-B</b>	S&P	8/3/04	BBB	11/3/09	CC	63
	Moody's	9/7/04	Baa2	12/24/08	Ca	51
<b>II-B</b>	S&P	8/3/04	BBB	11/3/09	CC	63
	Moody's	9/7/04	Baa2	12/24/08	Ca	51

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**HMBT 2004-2**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A-1</b>	S&P	11/1/04	AAA	10/2/12	A-	95
	Moody's	12/22/04	Aaa	3/15/11	Ba1	75
<b>A-2</b>	S&P	11/1/04	AAA	11/30/11	BBB	84
	Moody's	12/22/04	Aaa	12/24/08	Aa1	48
<b>M-1</b>	S&P	11/1/04	AA	11/3/09	B+	60
	Moody's	12/22/04	Aa2	12/24/08	A3	48
<b>M-2</b>	S&P	11/1/04	A	11/3/09	CCC	60
	Moody's	12/22/04	A2	12/24/08	Ba2	48
<b>B-1</b>	S&P	11/1/04	BBB	11/3/09	CC	60
	Moody's	12/22/04	Baa2	12/24/08	Caa2	48

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**HMBT 2005-1**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A-1</b>	S&P	2/25/05	AAA	8/19/09	AA+	54
	Moody's	4/19/05	Aaa	12/24/08	Aa2	44
<b>A-2</b>	S&P	2/25/05	AAA	8/19/09	AA+	54
	Moody's	4/19/05	Aaa	12/24/08	Aa2	44
<b>M-1</b>	S&P	2/25/05	AA+	2/16/10	AA-	60
	Moody's	4/19/05	Aa1	12/24/08	Aa3	44
<b>M-2</b>	S&P	2/25/05	AA+	8/19/09	A	54
	Moody's	4/19/05	Aa2	12/24/08	A1	44
<b>M-3</b>	S&P	2/25/05	AA	8/19/09	BBB+	54
	Moody's	4/19/05	Aa3	12/24/08	A2	44
<b>M-4</b>	S&P	2/25/05	AA-	8/19/09	BB+	54
	Moody's	4/19/05	A1	12/24/08	A3	44
<b>M-5</b>	S&P	2/25/05	A	8/19/09	B-	54
	Moody's	4/19/05	A2	12/24/08	Baa3	44
<b>M-6</b>	S&P	2/25/05	A-	8/19/09	B-	54
	Moody's	4/19/05	A3	12/24/08	Ba2	44
<b>B-1</b>	S&P	2/25/05	BBB+	8/19/09	CC	54
	Moody's	4/19/05	Baa1	12/24/08	B2	44
<b>B-2</b>	S&P	2/25/05	BBB	8/19/09	CC	54
	Moody's	4/19/05	Baa2	12/24/08	Ca	44

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**HMBT 2005-3**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A-1</b>	S&P	6/2/05	AAA	2/7/13	A+	92
	Moody's	6/22/05	Aaa	12/24/08	Aa1	42
<b>A-2</b>	S&P	6/2/05	AAA	10/5/11	AA-	76
	Moody's	6/22/05	Aaa	12/24/08	Aa1	42
<b>M-1</b>	S&P	6/2/05	AA+	10/5/11	B+	76
	Moody's	6/22/05	Aa1	12/24/08	A1	42
<b>M-2</b>	S&P	6/2/05	AA	2/16/10	AA-	56
	Moody's	6/22/05	Aa2	12/24/08	A3	42
<b>M-3</b>	S&P	6/2/05	AA-	7/24/09	A+	49
	Moody's	6/22/05	Aa3	12/24/08	Baa1	42
<b>M-4</b>	S&P	6/2/05	A	7/24/09	BB+	49
	Moody's	6/22/05	A2	12/24/08	Baa2	42
<b>M-5</b>	S&P	6/2/05	BBB	7/24/09	B-	49
	Moody's	6/22/05	Baa2	12/24/08	Ba2	42
<b>B</b>	S&P	6/2/05	BB	7/24/09	CC	49
	Moody's	6/22/05	Ba2	12/24/08	B3	42

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**HMBT 2005-4**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A-1</b>	S&P	9/2/05	AAA	7/15/11	BBB	70
	Moody's	9/30/05	Aaa	2/4/09	A1	41
<b>A-2</b>	S&P	9/2/05	AAA	2/16/10	AA+	53
	Moody's	9/30/05	Aaa	2/4/09	Baa2	41
<b>M-1</b>	S&P	9/2/05	AA+	2/16/10	BBB+	53
	Moody's	9/30/05	Aa1	2/4/09	Baa3	41
<b>M-2</b>	S&P	9/2/05	AA+	7/24/09	AA-	46
	Moody's	9/30/05	Aa2	2/4/09	Ba1	41
<b>M-3</b>	S&P	9/2/05	AA+	7/24/09	A-	46
	Moody's	9/30/05	Aa3	2/4/09	Ba2	41
<b>M-4</b>	S&P	9/2/05	AA	7/24/09	BB-	46
	Moody's	9/30/05	A2	2/4/09	Ba3	41
<b>M-5</b>	S&P	9/2/05	A	7/24/09	B-	46
<b>B-1</b>	S&P					
	Moody's	9/2/05	BBB	7/24/09	CC	46
<b>B-2</b>	S&P	9/2/05	BB	7/24/09	CC	46

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**HMBT 2005-5**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A-1</b>	S&P	12/2/05	AAA	7/24/09	AA	43
	Moody's	12/20/05	Aaa	2/4/09	Baa1	38
<b>A-2</b>	S&P	12/2/05	AAA	7/24/09	BB-	43
	Moody's	12/20/05	Aaa	2/4/09	Ba1	38
<b>M-1</b>	S&P	12/2/05	AA+	7/24/09	B-	43
	Moody's	12/20/05	Aa1	2/4/09	Ba2	38
<b>M-2</b>	S&P	12/2/05	AA	7/24/09	CC	43
	Moody's	12/20/05	Aa2	2/4/09	Ba3	38
<b>M-3</b>	S&P	12/2/05	AA-	7/24/09	CC	43
	Moody's	12/20/05	Aa3	2/4/09	B3	38
<b>M-4</b>	S&P	12/2/05	A	7/24/09	CC	43
	Moody's					
<b>M-5</b>	S&P	12/2/05	BBB	7/24/09	CC	43
	Moody's					
<b>B-1</b>	S&P	12/2/05	BBB-	7/24/09	CC	43
	Moody's					
<b>B-2</b>	S&P	12/2/05	BB	7/24/09	CC	43
	Moody's					

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**HMBT 2006-2**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A-1</b>	S&P	11/30/06	AAA	7/24/09	AA	32
	Moody's	11/30/06	Aaa	2/4/09	Baa3	27
<b>A-2</b>	S&P	11/30/06	AAA	7/24/09	A-	32
	Moody's	11/30/06	Aaa	2/4/09	Ba2	27
<b>M-1</b>	S&P	11/30/06	AA	7/24/09	B+	32
	Moody's	11/30/06	Aa2	2/4/09	B2	27
<b>M-2</b>	S&P	11/30/06	A	7/24/09	B-	32
	Moody's	11/30/06	A2	2/4/09	C	27
<b>B-1</b>	S&P	11/30/06	BBB	7/24/09	CC	32
	Moody's	11/30/06	Baa2	2/4/09	C	27

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**IRWHE 2004-1**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>I</b> A-1	S&P	8/11/04	AAA	6/6/08	AA	46
	Moody's	9/28/04	Aaa	6/19/08	Aa3	45
<b>II</b> A-1	S&P	8/11/04	AAA	7/9/13	A+	107
	Moody's	9/28/04	Aaa	6/30/10	A3	69
<b>II</b> M-1	S&P	8/11/04	AA	3/29/13	A+	103
	Moody's	9/28/04	Aa2	3/2/09	A2	54
<b>II</b> M-2	S&P	8/11/04	A			
	Moody's	9/28/04	A2	3/2/09	B3	54
<b>II</b> B-1	S&P	8/11/04	BBB	7/9/13	BB+	107
	Moody's	9/28/04	Baa2	3/2/09	Ca	54

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**IRWHE 2005-1**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>I-A</b>	Moody's	7/25/05	Aaa	6/30/10	Baa1	59
	Fitch	6/29/05	AAA	3/25/13	AA	93
<b>II-A-1</b>	Moody's	7/25/05	Aaa			
	Fitch	6/29/05	AAA			
<b>II-A-2</b>	Moody's	7/25/05	Aaa			
	Fitch	6/29/05	AAA			
<b>II-A-3</b>	Moody's	7/25/05	Aaa	6/30/10	Baa1	59
	Fitch	6/29/05	AAA			
<b>M-1</b>	Moody's	7/25/05	Aa2	6/30/10	Baa2	59
	Fitch	6/29/05	AA	3/25/13	A	93
<b>M-2</b>	Moody's	7/25/05	A2	10/27/08	Baa1	39
	Fitch	6/29/05	A	3/25/13	BBB	93
<b>B-1</b>	Moody's	7/25/05	Baa1	10/27/08	Ba2	39
	Fitch	6/29/05	BBB+	10/11/11	BBB	76
<b>B-2</b>	Moody's	7/25/05	Baa2	10/27/08	B2	39
	Fitch	6/29/05	BBB	10/5/12	BB	88
<b>B-3</b>	Moody's	7/25/05	Baa3	10/27/08	Caa3	39
	Fitch	6/29/05	BBB-	10/12/10	BB	64

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**LABS 2005-1**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A</b>	S&P	3/14/05	AAA	6/6/08	AA	39
	Moody's	4/7/05	Aaa	6/19/08	Aa3	38
	Fitch	3/11/05	AAA	2/12/08	AA	35
<b>M-1</b>	S&P					
	Moody's	4/7/05	Ba1	10/28/08	Ca	42
	Fitch	3/11/05	BBB-	12/3/09	D	57
<b>M-2</b>	S&P					
	Moody's	4/7/05	Ba3	10/28/08	C	42
	Fitch	3/11/05	BB+	12/3/09	D	57

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**MLMI 2005-A9**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>1-A-1</b>	S&P	12/29/05	AAA	8/7/09	BB+	44
	Fitch	12/22/05	AAA	9/10/09	BBB	45
<b>1-A-2</b>	S&P	12/29/05	AAA	8/7/09	CCC	44
	Fitch	12/22/05	AAA	4/3/09	BBB	40
<b>2-A-1A</b>	S&P	12/29/05	AAA	8/7/09	BBB	44
	Fitch	12/22/05	AAA			
<b>2-A-1B</b>	S&P	12/29/05	AAA	8/7/09	BB+	44
	Fitch	12/22/05	AAA	9/10/09	AA	45
<b>2-A-1C</b>	S&P	12/29/05	AAA	8/7/09	BB+	44
	Fitch	12/22/05	AAA	9/10/09	BB	45
<b>2-A-1D</b>	S&P	12/29/05	AAA	8/7/09	B+	44
	Fitch	12/22/05	AAA	4/3/09	A	40
<b>2-A-1E</b>	S&P	12/29/05	AAA	8/7/09	B+	44
	Fitch	12/22/05	AAA	4/3/09	A	40
<b>2-A-2</b>	S&P	12/29/05	AAA	8/7/09	CCC	44
	Fitch	12/22/05	AAA	4/3/09	BBB	40
<b>3-A-1</b>	S&P	12/29/05	AAA	8/7/09	CCC	44
	Fitch	12/22/05	AAA	4/3/09	A	40
<b>3-A-2</b>	S&P	12/29/05	AAA	8/7/09	CCC	44
	Fitch	12/22/05	AAA	4/3/09	BBB	40
<b>4-A-1</b>	S&P	12/29/05	AAA	8/7/09	CCC	44
	Fitch	12/22/05	AAA	4/3/09	A	40
<b>4-A-2</b>	S&P	12/29/05	AAA	8/7/09	CCC	44
	Fitch	12/22/05	AAA	4/3/09	BBB	40
<b>5-A-1</b>	S&P	12/29/05	AAA	8/7/09	BBB	44
	Fitch	12/22/05	AAA	9/10/09	BBB	45
<b>5-A-2</b>	S&P	12/29/05	AAA	8/7/09	CCC	44
	Fitch	12/22/05	AAA	4/3/09	BBB	40
<b>M-1</b>	S&P	12/29/05	AA	8/7/09	CCC	44
<b>M-2</b>	S&P	12/29/05	A	8/7/09	CC	44
<b>M-3</b>	S&P	12/29/05	BBB	8/7/09	CC	44
<b>B-1</b>	S&P	12/29/05	BB	8/7/09	CC	44
<b>B-2</b>	S&P	12/29/05	B	5/9/08	CCC	29
<b>B-3</b>	S&P					

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**NYMT 2005-2**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
A	S&P	8/2/05	AAA	10/15/12	BBB+	86
M-1	S&P	8/2/05	AA	10/15/12	BBB+	86
M-2	S&P	8/2/05	A	8/11/11	A-	72

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**TMST 2007-1**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A-1</b>	S&P	2/28/07	AAA	7/21/09	BB-	29
	Moody's	3/16/07	Aaa	11/21/08	A3	20
<b>A-2A</b>	S&P	2/28/07	AAA	7/21/09	BB-	29
	Moody's	3/16/07	Aaa	11/21/08	Baa1	20
<b>A-2B</b>	S&P	2/28/07	AAA	7/21/09	AA	29
	Moody's	3/16/07	Aaa	5/1/09	B1	26
<b>A-2C</b>	S&P	2/28/07	AAA	7/21/09	BB-	29
	Moody's	3/16/07	Aaa	11/21/08	Baa1	20
<b>A-3A</b>	S&P	2/28/07	AAA	11/7/12	B-	69
	Moody's	3/16/07	Aaa	5/1/09	A2	26
<b>A-3B</b>	S&P	2/28/07	AAA	7/21/09	BB-	29
	Moody's	3/16/07	Aaa	11/21/08	A3	20
<b>A-X</b>	S&P	2/28/07	AA			
	Moody's	3/16/07	Aa1	5/1/09	A3	26
<b>B-1</b>	S&P	2/28/07	AA	7/21/09	CCC	29
<b>B-2</b>	S&P	2/28/07	A	9/17/08	BBB	19
	Moody's					
<b>B-3</b>	S&P	2/28/07	BBB	9/17/08	B	19
<b>B-4</b>	S&P	2/28/07	BB	9/17/08	CCC	19
	Moody's					
<b>B-5</b>	S&P	2/28/07	B	9/17/08	CC	19
<b>B-6</b>	S&P					
	Moody's					

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**TMST 2007-2**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>A-1</b>	S&P	5/2/07	AAA	7/8/09	BBB+	26
	Moody's	5/11/07	Aaa	11/21/08	Aa2	18
<b>A-2A</b>	S&P	5/2/07	AAA	7/8/09	AA+	26
	Moody's	5/11/07	Aaa	5/1/09	Ba1	24
<b>A-2B</b>	S&P	5/2/07	AAA	7/8/09	BBB+	26
	Moody's	5/11/07	Aaa	11/21/08	Aa2	18
<b>A-3A</b>	S&P	5/2/07	AAA	7/8/09	AA+	26
	Moody's	5/11/07	Aaa	5/1/09	A2	24
<b>A-3B</b>	S&P	5/2/07	AAA	7/8/09	BBB+	26
	Moody's	5/11/07	Aaa	11/21/08	Aa2	18
<b>A-X</b>	S&P	2/28/07	AA			
	Moody's	3/16/07	Aa1	5/1/09	A3	26
<b>B-1</b>	S&P	2/28/07	AA	7/8/09	B-	29
	Moody's					
<b>B-2</b>	S&P	2/28/07	A	9/17/08	BBB	19
	Moody's					
<b>B-3</b>	S&P	2/28/07	BBB	9/17/08	B	19
	Moody's					
<b>B-4</b>	S&P	2/28/07	BB	9/17/08	B	19
	Moody's					
<b>B-5</b>	S&P	2/28/07	B	9/17/08	CC	19
	Moody's					
<b>B-6</b>	S&P					
	Moody's					

Source: ABSNet

**Exhibit 18**  
**Time to First Downgrade**  
**TMST 2007-3**

Tranche	Agency	Initial Rating		First Downgrade		Months to Downgrade
		Date	Rating	Date	Rating	
<b>1A-1</b>	S&P	7/31/07	AAA	2/23/09	A	19
	Moody's	7/31/07	Aaa	11/21/08	Aa2	16
<b>1A-2</b>	S&P	7/31/07	AAA	2/23/09	B	19
	Moody's	7/31/07	Aaa	11/21/08	B3	16
<b>2A-1</b>	S&P	7/31/07	AAA	2/23/09	B+	19
	Moody's	7/31/07	Aaa	11/21/08	A1	16
<b>2A-2</b>	S&P	7/31/07	AAA	2/23/09	B	19
	Moody's	7/31/07	Aaa	11/21/08	B1	16
<b>3A-1</b>	S&P	7/31/07	AAA	2/23/09	B+	19
	Moody's	7/31/07	Aaa	11/21/08	A1	16
<b>3A-2</b>	S&P	7/31/07	AAA	2/23/09	B	19
	Moody's	7/31/07	Aaa	11/21/08	B2	16
<b>4A-1</b>	S&P	7/31/07	AAA	2/23/09	B+	19
	Moody's	7/31/07	Aaa	5/1/09	A1	22
<b>4A-2</b>	S&P	7/31/07	AAA	2/23/09	B	19
	Moody's	7/31/07	Aaa	11/21/08	Ba3	16
<b>4A-3</b>	S&P	7/31/07	AAA	2/23/09	BB	19
	Moody's	7/31/07	Aaa	5/1/09	Aa1	22
<b>4A-4</b>	S&P	7/31/07	AAA	2/23/09	B	19
	Moody's	7/31/07	Aaa	11/21/08	Ba3	16
<b>A-X</b>	S&P	7/31/07	AAA	8/2/07	AA	1
	Moody's	7/31/07	Aa1	5/1/09	Aa2	22
<b>B-1</b>	S&P	7/31/07	AA	2/23/09	CCC	19
<b>B-2</b>	S&P	7/31/07	A	2/23/09	CCC	19
<b>B-3</b>	S&P	7/31/07	BBB	2/23/09	CCC	19
<b>B-4</b>	S&P	7/31/07	BB	2/23/09	CCC	19
<b>B-5</b>	S&P	7/31/07	B	2/23/09	CC	19
<b>B-6</b>	S&P					

Source: ABSNet

# Exhibit 19

## Ratings Summary

### AABST 2004-6

Tranche	Agency	12/30/04	3/7/05	10/15/07	12/3/07	2/11/08	2/15/08	10/13/08	5/1/09	9/30/09	3/13/11	12/5/11	10/11/12	12/3/07	6/25/13	7/24/13	8/11/15	7/22/16
IA1	S&P	AAA																
	Moody's		Aaa															
IA2	S&P	AAA																
	Moody's		Aaa															
IA3	S&P	AAA																
	Moody's		Aaa					WR										
IIA1	S&P	AAA																
	Moody's		Aaa															
IIA2	S&P	AAA								WR								
	Moody's		Aaa															
M1	S&P	AA									BB+		D					
	Moody's		Aa2											Baa3		WR		
M2	S&P	A+								A-			B-		D			
	Moody's		A2						Baa3		Caa2					B3	B1	
M3	S&P	A						BBB-		B-		CCC		D				
	Moody's		A3						B3		C							
B1	S&P	A-						BB-		CC			D					
	Moody's		Baa1						C									
B2	S&P	BBB+	BBB					B-		CC			D					
	Moody's		Baa2		Ba1				C				Ba1					
B3	S&P	BBB	B+					CCC		CC			D			Ba2		
	Moody's		Baa3		Ba2				C									
N	S&P	BBB		CCC					CC			D						
	Moody's																	

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**AABST 2005-1**

Tranche	Agency	2/25/05	2/28/05	3/14/05	4/25/06	9/6/07	12/3/07	2/15/08	3/27/08	7/23/08	10/31/08	3/13/09	6/12/09	7/25/09	10/25/09	3/2/10	3/25/10	8/13/10	7/18/11	9/23/11	4/5/12	10/11/12	3/1/13	3/15/13	7/11/13	11/13/13	12/10/13	2/11/14	8/28/14	12/12/14	6/5/15	12/8/15			
IA1	S&P Moody's Fitch	AAA		WR																															
IA2	S&P Moody's Fitch	AAA				Aaa				WR																									
IA3	S&P Moody's Fitch	AAA				Aaa					WR																								
IIA1	S&P Moody's Fitch	AAA				Aaa					WR																								
IIA2	S&P Moody's Fitch	AAA				Aaa					WR																								
M1	S&P Moody's Fitch	AA+				Aa1						Aaa										A3		WR											
M2	S&P Moody's Fitch	AA				Aa2						A3																							
M3	S&P Moody's Fitch	AA-				Aa3			BB		A3	CCC		Baa1	B3		BBB+					Ba3		BB		Ba1	BBB		A						
M4	S&P Moody's Fitch	A+				A1			B		Ba1	CCC		C		BBB+	B					Caa2	B3		B1	BB									
M5	S&P Moody's Fitch	A-				A2			B		Baa2	B1	BB	B+		Caa2	C	CCC																	
M6	S&P Moody's Fitch	A-				A			BB		Baa2	CCC	B2	Ca	C		CC					D													
B1	S&P Moody's Fitch	A-				Baa1			Baa3		B+	CC	Ca	C	C		CC					D													
B2	S&P Moody's Fitch	BBB+									B+	CC				CCC		D																	
B3	S&P Moody's Fitch	BBB									Baa2	Ba1	CC	C	C																				
N1	S&P Moody's Fitch	BBB-									Baa3	Ba3	CCC	C	C		CCC		D																
N2	S&P Moody's Fitch	A																CCC		D															

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**AABST 2005-3**

Tranche	Agency	6/30/05	7/14/05	12/17/07	3/6/08	7/23/08	8/13/08	10/31/08	3/13/09	9/17/09	12/25/09	8/13/10	7/18/11	10/21/11	4/23/12	10/16/12	4/19/13	4/29/13	1/25/14	2/21/14	8/28/14	6/5/15	10/14/15	4/18/16		
A1	S&P	AAA																								
	Moody's		Aaa																							
A2	S&P	AAA																								
	Moody's		Aaa																							
A3	S&P	AAA																								
	Moody's		Aaa																							
B1	S&P	BBB+			B	CCC					D															
	Moody's		Baa1	Ba1					C																	
B2	S&P	BBB			B-	CCC				D																
	Moody's		Baa2	B1					C																	
B3	S&P	BBB-			CCC	CC	D																			
	Moody's		Baa3	B2					C																	
M1	S&P	AA+																								
	Moody's		Aa1					A1																		
M2	S&P	AA								BBB																
	Moody's		Aa2					A2	Ba2																	
M3	S&P	AA-							B-																	
	Moody's		Aa3					Baa2	B3																	
M4	S&P	A+							CC																	
	Moody's		A1					Ba3	Ca																	
M5	S&P	A	BBB+						CC																	
	Moody's		A2	Baa1				Caa2	C																	
M6	S&P	A-		BB	B				D																	
	Moody's			A3	Baa2			C																		
N1	S&P																									
	Moody's																									
N2	S&P																									
	Moody's																									

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**ACCR 2004-2**

Tranche	Agency	5/28/04	7/15/04	2/14/08	2/26/08	3/31/08	5/1/08	5/26/09	3/24/11	1/18/13	12/29/14
<b>A-1</b>	S&P	AAA			A				BBB-	BB+	
	Moody's		Aaa	A3		Baa3	Baa2	B2	Caa2		
<b>A-2</b>	S&P	AAA			A				BB+	B+	
	Moody's		Aaa	A3		Baa3	Baa2	B1	Caa2		

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**ACCR 2005-3**

Tranche	Agency	8/29/05	9/7/05	2/15/08	4/21/08	4/24/08	7/23/08	10/31/08	1/26/09	3/17/09	3/24/09	8/4/09	1/25/10	6/1/10	9/24/10	10/21/11	12/13/11	3/29/12	8/16/12	2/8/13	6/27/13	11/6/13	1/27/14	8/28/14	6/5/15	2/29/16	4/18/16
A-1	S&P Moody's	AAA																	BB						AA+		WR
A-2A	S&P Moody's	AAA																									
A-2B	S&P Moody's	AAA																									
A-2C	S&P Moody's	AAA																									
A-2D	S&P Moody's	AAA																	BB						AA+		
M-1	S&P Moody's	AA+																									
M-2	S&P Moody's	AA+																									
M-3	S&P Moody's	AA																									
M-4	S&P Moody's	AA-																									
M-5	S&P Moody's	A+																	CCC								
M-6	S&P Moody's	A																									
M-7	S&P Moody's	A-																									
M-8	S&P Moody's	BBB+																									
M-9	S&P Moody's	Baa2																									

Source: ABSNet

## Exhibit 19

### Ratings Summary

### BAYV 2005-A

Tranche	Agency	5/25/05	11/19/10	11/17/11	7/31/15	11/18/15
A1	Fitch	AAA	BB	CCC		
A2A	Fitch	AAA	BB	CCC		
A2B	Fitch	AAA	B	CC		
M1	Fitch	AA	CCC	C		
M2	Fitch	A	CC	C		
M3	Fitch	A-	CC	C		
B1	Fitch	BBB+	C		D	
B2	Fitch	BBB	C		D	
R	Fitch					

Source: ABSNet

## Exhibit 19

### Ratings Summary

### BAYRT 2005-E

Tranche	Agency	12/16/05	11/19/10	11/17/11	6/22/15
A1	Fitch	AAA	BB	CCC	
A2A	Fitch	AAA	BB	CCC	
A2B	Fitch	AAA	B	CC	
M1	Fitch	AA	CCC	C	
M2	Fitch	A	CC	C	
M3	Fitch	A-	CC	C	
B1	Fitch	BBB+	C		
B2	Fitch	BBB	C	D	
R	Fitch				

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**GPHE 2004-2**

Tranche	Agency	4/29/04	4/30/04	6/6/08	6/19/08	11/17/08	11/24/08	4/13/09	7/7/09	7/29/09	1/13/10	11/4/10	7/22/13	10/2/14	8/14/15	10/20/15
<b>A - 1</b>	S&P	AAA		AA			A		BBB		CC		B+			
	Moody's		Aaa		Aa3	Baa1		Ba3		B1		Caa2		B3	B1	Ba1
<b>A - 2</b>	S&P	AAA		AA			A		BBB		CC		B+			
	Moody's		Aaa		Aa3	Baa1		Ba3		B1		Caa2		B3	B1	Ba1

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**GPHE 2004-3**

Tranche	Agency	6/29/04	6/6/08	6/19/08	11/17/08	11/24/08	4/13/09	7/7/09	7/29/09	8/4/09	1/13/10	4/16/10	10/26/15
<b>A</b>	S&P Moody's	AAA Aaa	AA Aa3		Baa1	A	Ba3	BBB Caa2		BB Caa3	CCC		WR

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**HEMT 2006-2**

Tranche	Agency	4/28/06	5/5/06	5/14/07	6/19/07	7/19/07	8/16/07	9/10/07	9/11/07	9/25/07	11/19/07	12/20/07	1/24/08	2/14/08	2/26/08	2/27/08	3/10/08	3/31/08	4/7/08	4/8/08	4/9/08	5/22/08	6/11/08	6/20/08	8/14/08	8/26/08	9/3/08	9/9/08	10/27/08	12/4/08	12/19/08	1/14/09	2/2/09	3/4/09	3/26/09	11/2/09	12/6/10	6/30/10	3/25/13	4/26/13				
<b>1A-1</b>	S&P Moody's Fitch	AAA	Aaa		Aa1					A-									Aa3				BB	Ba3	Caa1		B			CC	Ca	D												
<b>1A-2</b>	S&P Moody's Fitch	AAA	Aaa		Aa1				A+			A-									BB	Ba	C		B+		CC	CC	C	D														
<b>1A-3</b>	S&P Moody's Fitch	AAA	Aaa		Aa1			A+			A-									BBB	A3					CCC		CC	C	D														
<b>2A-1</b>	S&P Moody's Fitch	AAA	Aaa						A-										BB	Ba1					BB	C																		
<b>2A-2</b>	S&P Moody's Fitch	AAA	Aaa																A	BB						CC	CC																	
<b>1B-1</b>	S&P Moody's Fitch	BB+	Ba1	BB-	B3	CCC	C	C	D										AA	BBB						CCC	Caa1	CC	Caa3	Ca	C													
<b>1B-2</b>	S&P Moody's Fitch	BB-	Ba2	BB-	B3	CCC	C	C	D																																			
<b>1M-1</b>	S&P Moody's Fitch	AA+	Aa1		Aa2					BB+																B	C			D														
<b>1M-2</b>	S&P Moody's Fitch	AA	Aa2		A2					B									CC	Caa1						CC		C	D															
<b>1M-3</b>	S&P Moody's Fitch	AA-	Aa3		Baa1					BB									CCC	C						Caa3		C																
<b>1M-4</b>	S&P Moody's Fitch	A+	A1		Baa3					BB-									CCC	C						D	C																	
<b>1M-5</b>	S&P Moody's Fitch	A	A2		Ba1					C									CCC	C						D	C																	
<b>1M-6</b>	S&P Moody's Fitch	A-	A3		B1					BB+									CCC	C						D	C																	
<b>1M-7</b>	S&P Moody's Fitch	BBB+	Baa1		Ca	B	CCC	D												C																								
<b>1M-8</b>	S&P Moody's Fitch	BBB+	Baa2		C	C	CCC	D																																				
<b>1M-9</b>	S&P Moody's Fitch	BBB-	Baa3		CCC	C	C	D																																				
<b>2M-1</b>	S&P Moody's Fitch	BBB-	Baa2		BB																						D																	
<b>1P</b>	S&P Moody's Fitch	BBB+	AAA																								BB																	
<b>G</b>	S&P Moody's Fitch	AAA																	A	BB							CCC																	
<b>2P</b>	S&P Moody's Fitch	AAA																									CCC																	
<b>2M-2</b>	S&P Moody's Fitch	BBB	Baa3		B+					C																																		
<b>1A-R</b>	S&P Moody's Fitch	AAA																																										
<b>2A-R</b>	S&P Moody's Fitch	AAA																																										

Source: ABSNet

## Exhibit 19

### Ratings Summary

#### HMBT 2004-1

Tranche	Agency	8/3/04	9/7/04	12/24/08	5/26/09	11/3/09	3/15/11	11/30/11	5/7/12	8/30/12	10/15/12	3/27/13	7/22/13	1/27/14	11/4/14	3/4/15	7/2/15
I-A	S&P	AAA									BB-	B-				CCC	
	Moody's		Aaa	Aa3	A2		B1		B3						Caa1		
II-A	S&P	AAA									BB	B				CCC	
	Moody's		Aaa	Aa1	A1		B1								B3		
I-M-1	S&P	AA				BBB-		B-			CCC					CC	
	Moody's		Aa2	A3	Baa2		Caa3		Ca								
II-M-1	S&P	AA				B-					CCC						
	Moody's		Aa2	A1	Baa1		Ca										
I-M-2	S&P	A				CCC		CC				D					
	Moody's		A2	Ba3			Ca		C								
II-M-2	S&P	A			CCC		CC					D					
	Moody's		A2	Baa3	Ba1		C										
I-B	S&P	BBB			CC						D						
	Moody's		Baa2	Ca			C										
II-B	S&P	BBB			CC				D								
	Moody's		Baa2	Ca			C										

Source: ABSNet

## Exhibit 19

### Ratings Summary

### HMBT 2004-2

Tranche	Agency	11/1/04	12/22/04	12/24/08	11/3/09	3/15/11	11/30/11	5/7/12	10/2/12	5/21/13	7/2/15
<b>A-1</b>	S&P	AAA							A-		
	Moody's		Aaa			Ba1		Ba3			
<b>A-2</b>	S&P	AAA					BBB		BB+		B-
	Moody's		Aaa	Aa1		Ba3		Caa1			
<b>M-1</b>	S&P	AA		B+		CC			CCC		
	Moody's		Aa2	A3		Ca					
<b>M-2</b>	S&P	A		CCC		CC					
	Moody's		A2	Ba2		C					
<b>B-1</b>	S&P	BBB		CC				D			
	Moody's		Baa2	Caa2		C					

Source: ABSNet

## Exhibit 19

### Ratings Summary

### HMBT 2005-1

Tranche	Agency	2/25/05	4/19/05	12/24/08	2/4/09	8/19/09	2/16/10	10/14/10	10/5/11	1/2/13	9/24/15	12/14/15
A-1	S&P	AAA				AA+	AA-		BBB-	CCC		
	Moody's		Aaa	Aa2	Aa3			Caa1				
A-2	S&P	AAA				AA+	AA-		BBB-	CCC		
	Moody's		Aaa	Aa2	Aa3			Caa1				
M-1	S&P	AA+					AA-		BB-	CCC		
	Moody's		Aa1	Aa3	A1		Caa1					
M-2	S&P	AA+				A			B-	CCC		
	Moody's		Aa2	A1	Baa2		Caa1					
M-3	S&P	AA				BBB+	BBB		CCC			
	Moody's		Aa3	A2	Baa3		Caa1					
M-4	S&P	AA-				BB+	BB		CCC			
	Moody's		A1	A3	Ba1		Caa1					
M-5	S&P	A				B-			CCC			
	Moody's		A2	Baa3	Ba1		Caa1					
M-6	S&P	A-				B-	CCC					
	Moody's		A3	Ba2	Ba3		Caa1					
B-1	S&P	BBB+				CC			D			
	Moody's		Baa1	B2	Ca		Caa1					
B-2	S&P	BBB				CC			D			
	Moody's		Baa2	Ca	C		Caa1					

Source: ABSNet

## Exhibit 19

### Ratings Summary

### HMBT 2005-3

Tranche	Agency	6/2/05	6/22/05	12/24/08	2/4/09	7/24/09	2/16/10	10/14/10	10/5/11	2/7/13	4/26/13	6/26/14	5/26/15	2/24/16	3/30/16
A-1	S&P Moody's	AAA						B2		A+				AA+	
			Aaa	Aa1	Aa3						Ba2				Baa3
A-2	S&P Moody's	AAA							AA-	BBB+				AA+	
			Aaa	Aa1	Baa1			B2			Ba2				Baa3
M-1	S&P Moody's	AA+							B+	BB+				BBB+	
			Aa1	A1	Ba1			C					Caa3	B3	
M-2	S&P Moody's	AA				AA-			B-	BB				BB+	
			Aa2	A3	Ba1			C					Ca	Caa2	
M-3	S&P Moody's	AA-			A+	BBB+			CCC	B+				BB	
			Aa3	Baa1	Ba1			C						Ca	
M-4	S&P Moody's	A			BB+	B+			CCC					B-	
			A2	Baa2	B1			C							
M-5	S&P Moody's	BBB			B-	CCC									
			Baa2	Ba2	Ca			C							
B	S&P Moody's	BB			CC						D				
			Ba2	B3	C										

Source: ABSNet

## Exhibit 19

### Ratings Summary

#### HMBT 2005-4

Tranche	Agency	9/2/05	9/30/05	2/4/09	7/24/09	2/16/10	10/14/10	3/18/11	7/15/11	2/7/13	5/26/15	10/30/15	2/24/16	3/30/16
<b>A-1</b>	S&P	AAA							BBB	BB		BBB+		
	Moody's		Aaa	A1			Caa1			B2			Ba3	
<b>A-2</b>	S&P	AAA				AA+			B-	BB-		BBB+		
	Moody's		Aaa	Baa2			Caa1			B2			Ba3	
<b>M-1</b>	S&P	AA+				BBB+			CCC			BB-		
	Moody's		Aa1	Baa3			C						Caa3	
<b>M-2</b>	S&P	AA+			AA-	BB-			CCC			B-		
	Moody's		Aa2	Ba1			C							
<b>M-3</b>	S&P	AA+			A-	B-			CCC					
	Moody's		Aa3	Ba2			C							
<b>M-4</b>	S&P	AA			BB-	CCC								
	Moody's		A2	Ba3			C							
<b>M-5</b>	S&P	A			B-	CCC				D				
	Moody's													
<b>B-1</b>	S&P	BBB			CC				D					
<b>B-2</b>	S&P	BB			CC			D						

Source: ABSNet

## Exhibit 19

### Ratings Summary

### HMBT 2005-5

Tranche	Agency	12/2/05	12/20/05	2/4/09	7/24/09	10/14/10	3/18/11	8/11/11	12/3/12	1/31/14	9/24/15
<b>A-1</b>	S&P	AAA			AA			B-	CCC		
	Moody's		Aaa	Baa1		Caa1					
<b>A-2</b>	S&P	AAA			BB-			CCC			
	Moody's		Aaa	Ba1		Caa1					
<b>M-1</b>	S&P	AA+			B-			CCC			
	Moody's		Aa1	Ba2		C					
<b>M-2</b>	S&P	AA			CC						
	Moody's		Aa2	Ba3		C					
<b>M-3</b>	S&P	AA-			CC			D			
	Moody's		Aa3	B3		C					
<b>M-4</b>	S&P	A			CC			D			
	Moody's										
<b>M-5</b>	S&P	BBB			CC			D			
	Moody's										
<b>B-1</b>	S&P	BBB-			CC		D				
	Moody's										
<b>B-2</b>	S&P	BB			CC		D				
	Moody's										

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**HMBT 2006-2**

Tranche	Agency	11/30/06	2/4/09	7/24/09	2/16/10	10/20/10	8/11/11	6/26/14	9/24/15	2/23/16
<b>A-1</b>	S&P	AAA		AA	A+		CCC			
	Moody's	Aaa	Baa3			Caa2			B3	
<b>A-2</b>	S&P	AAA		A-	BBB+		CCC			
	Moody's	Aaa	Ba2			Caa2			B3	
<b>M-1</b>	S&P	AA		B+	B		CCC			
	Moody's	Aa2	B2			C			Ca	
<b>M-2</b>	S&P	A		B-	CCC			D		
	Moody's	A2	C							
<b>B-1</b>	S&P	BBB		CC			D			
	Moody's	Baa2	C							

Source: ABSNet

## Exhibit 19

### Ratings Summary

### IRWHE 2004-1

Tranche	Agency	8/11/04	9/28/04	6/6/08	6/19/08	11/17/08	3/2/09	4/13/09	7/7/09	6/30/10	7/22/11	3/29/13	7/9/13	10/23/14	9/1/15	7/8/16
<b>I A-1</b>	S&P	AAA		AA					A-				A+			
	Moody's		Aaa		Aa3	A3	Baa1	Baa2		Baa3	B1				Ba2	
<b>II A-1</b>	S&P	AAA											A+			
	Moody's		Aaa								A3	Baa2			A3	
<b>III M-1</b>	S&P	AA											A+			
	Moody's		Aa2				A2			Baa3	Ba3			Ba1	Baa2	Baa1
<b>III M-2</b>	S&P	A												B1	Ba1	Baa3
	Moody's		A2				B3									
<b>II B-1</b>	S&P	BBB											BB+			
	Moody's		Baa2				Ca						Caa3	B2	Ba2	

Source: ABSNet

## Exhibit 19

### Ratings Summary

### IRWHE 2005-1

Tranche	Agency	6/29/05	7/25/05	10/27/08	6/30/10	10/12/10	10/11/11	7/25/12	10/5/12	3/25/13	7/18/13	3/25/14	9/29/15
I-A	Moody's		Aaa		Baa1								
	Fitch		AAA							AA	A		
II-A-1	Moody's			Aaa									
	Fitch		AAA										
II-A-2	Moody's		Aaa										
	Fitch		AAA										
II-A-3	Moody's		Aaa		Baa1								
	Fitch		AAA										
M-1	Moody's		Aa2		Baa2								
	Fitch		AA							A	BBB	BB	
M-2	Moody's		A2	Baa1	Ba2								Ba1
	Fitch		A							BBB	BB	B	
B-1	Moody's		Baa1	Ba2	B1								Ba2
	Fitch		BBB+			BBB				B	CCC		
B-2	Moody's		Baa2	B2									B1
	Fitch		BBB							BB	CCC		
B-3	Moody's		Baa3	Caa3	C			Ca					B3
	Fitch		BBB-			BB			CCC				

Source: ABSNet

## Exhibit 19

### Ratings Summary

### LABS 2005-1

Tranche	Agency	3/11/05	3/14/05	4/7/05	2/12/08	6/6/08	6/19/08	10/28/08	11/17/08	11/24/08	4/13/09	7/7/09	8/4/09	12/3/09	8/3/10	10/12/10	12/2/10	4/21/11	3/24/15	10/7/15	2/29/16	8/8/16
	S&P	AAA				AA				A		BBB	B		CCC							
<b>A</b>	Moody's		Aaa				Aa3		Baa1		Ba2					Caa3		Ba3				
	Fitch	AAA		AA										CC	C		CC		CCC		Ba1	
	S&P																					
<b>M-1</b>	Moody's		Ba1					Ca							D			C				
	Fitch	BBB-																				
	S&P																					
<b>M-2</b>	Moody's		Ba3					C						D								
	Fitch	BB+																				

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**MLMI 2005-A9**

Tranche	Agency	12/22/05	12/29/05	5/9/08	4/3/09	4/24/09	8/7/09	9/10/09	9/24/09	1/25/10	2/22/10	4/5/10	8/5/10	4/19/11	7/22/11	10/5/11	7/30/12	12/5/12	12/20/12	12/21/12	1/29/13	1/30/13	5/3/13	10/18/13	1/24/14	3/4/15	5/1/15	7/2/15	7/31/15	9/17/15	9/22/15						
1-A-1	S&P Fitch	AAA					BB+		BBB		B-		BB		CCC	CC	CC	C						CC													
1-A-2	S&P Fitch	AAA		AAA			BBB		CCC		CCC		CC		CC	C	D																				
2-A-1A	S&P Fitch	AAA		AAA			BBB		BBB		BB-																										
2-A-1B	S&P Fitch	AAA		AAA			BBB		BBB																												
2-A-1C	S&P Fitch	AAA		AAA			BB+		AA		B+				CCC		CCC													B							
2-A-1D	S&P Fitch	AAA		AAA			BB+		BB		B+				CCC		CCC																				
2-A-1E	S&P Fitch	AAA		A			B+		BB		CCC				CC		CC												C								
2-A-2	S&P Fitch	AAA		A			BB		CCC						CC		C	D																			
3-A-1	S&P Fitch	AAA		AAA			BBB		CCC						CC		CC													D	D						
3-A-2	S&P Fitch	AAA		A			B		CCC						CC		CC																				
4-A-1	S&P Fitch	AAA		AAA			BBB		CCC						CC		C	D												D	D						
4-A-2	S&P Fitch	AAA		A			B		CCC						CC		CC																				
5-A-1	S&P Fitch	AAA		AAA			BBB		CCC		B				CC		C													D	C						
5-A-2	S&P Fitch	AAA		A			BBB		CCC		B				CC		CC															D					
M-1	S&P Fitch	AA		AA			CCC				CC		D																								
M-2	S&P Fitch	A		A			CC				D																										
M-3	S&P Fitch		BBB		CC		D																														
B-1	S&P Fitch		BB		CC		D																														
B-2	S&P Fitch		B	CCC		D																															
B-3	S&P Fitch																																				

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**NYMT 2005-2**

Tranche	Agency	8/2/05	8/11/11	6/26/12	10/15/12
A	S&P	AAA		BBB+	
M-1	S&P	AA		BBB+	
M-2	S&P	A	A-	BBB-	BB+

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**TMST 2007-1**

Tranche	Agency	2/28/07	3/16/07	9/17/08	11/21/08	5/1/09	7/21/09	11/25/09	2/22/10	3/26/10	6/23/10	10/22/10	12/17/10	7/22/11	7/26/11	2/22/12	6/28/12	7/31/12	11/7/12	7/11/13	9/30/15	11/24/15
A-1	S&P Moody's	AAA Aaa		A3	B3		BB-		B					B-			D				Caa1	
A-2A	S&P Moody's	AAA Aaa		Baa1	B3		BB-		B					B-		D				Caa1		
A-2B	S&P Moody's	AAA Aaa				AA										CCC				Caa1		
A-2C	S&P Moody's	AAA Aaa		B1		BB-		B	B2					B-		D			C			
A-3A	S&P Moody's	AAA Aaa		Baa1	Caa3					Ca						B-	CCC		B3	CCC	Caa1	
A-3B	S&P Moody's	AAA Aaa			A2					B1							D			C		
A-X	S&P Moody's	AA Aa1			A3					B1						B3			Caa1		Caa2	
B-1	S&P Moody's	AA Aa1				CCC									D							
B-2	S&P Moody's	A BBB				CCC		CC						D								
B-3	S&P Moody's	BBB B				CCC		CC						D								
B-4	S&P Moody's	BB CCC				CC			D													
B-5	S&P Moody's	B CC				D																
B-6	S&P Moody's																					

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**TMST 2007-2**

Tranche	Agency	2/28/07	3/16/07	5/2/07	5/11/07	9/17/08	11/21/08	5/1/09	7/8/09	7/21/09	11/25/09	2/22/10	3/26/10	11/24/10	2/25/11	3/18/11	7/22/11	11/23/11	2/22/12	11/7/12	10/17/13	11/22/13	1/15/14	9/30/15	11/5/15	11/24/15			
A-1	S&P Moody's	AAA						BBB+			BBB					B		CC						D					
A-2A	S&P Moody's		AAA	Aaa		Aa2	B3		AA+									B						Caa1	CCC				
A-2B	S&P Moody's			AAA	Aaa		Ba1					Caa1																	
A-3A	S&P Moody's				AAA			BBB+			BB-					B		CC		D					CCC				
A-3B	S&P Moody's					AAA	Aaa	Aa2	Caa1			AA+				B1										Caa1			
A-X	S&P Moody's					AA				BBB+		BB-					B		CC	D									
B-1	S&P Moody's					AA				B-	CCC							D											
B-2	S&P Moody's					A		BBB		CCC		CC				D													
B-3	S&P Moody's					BBB		B		CCC		CC				D													
B-4	S&P Moody's					BB		B		CCC	CC				D														
B-5	S&P Moody's					B		CC			D																		
B-6	S&P Moody's																												

Source: ABSNet

**Exhibit 19**  
**Ratings Summary**  
**TMST 2007-3**

Tranche	Agency	7/31/07	8/2/07	11/21/08	2/23/09	5/1/09	8/21/09	12/3/09	1/25/10	2/22/10	3/26/10	9/24/10	3/18/11	7/22/11	9/23/11	1/25/12	2/22/12	7/30/12	11/7/12	4/22/13	1/27/14	7/25/14	6/16/15	9/24/15	3/1/16	
<b>1A-1</b>	S&P	AAA		A		Caa1		CCC										CC								
	Moody's	Aaa	Aa2																							
<b>1A-2</b>	S&P	AAA		B				CCC													D					
	Moody's	Aaa	B3					Ca																		C
<b>2A-1</b>	S&P	AAA		B+				CCC																		Caa1
	Moody's	Aaa	A1					B3																		
<b>2A-2</b>	S&P	AAA		B				CCC													D					
	Moody's	Aaa	B1					Caa3																		WR
<b>3A-1</b>	S&P	AAA		B+				B-																		
	Moody's	Aaa	A1					B3																		
<b>3A-2</b>	S&P	AAA		B				CCC													D					
	Moody's	Aaa	B2					Caa3																		
<b>4A-1</b>	S&P	AAA		B+																	CCC					CC
	Moody's	Aaa						A1																		Caa1
<b>4A-2</b>	S&P	AAA		B				CCC													D					C
	Moody's	Aaa	Ba3					Caa3																		
<b>4A-3</b>	S&P	AAA		BB																	B	CCC				Caa1
	Moody's	Aaa						Aa1																		
<b>4A-4</b>	S&P	AAA		B				CCC													CC					
	Moody's	Aaa	Ba3					Caa1													D					C
<b>A-X</b>	S&P	AAA	AA	A				BB																		
	Moody's	Aa1						Aa2																		
<b>B-1</b>	S&P	AA						CCC													D					
	Moody's																									
<b>B-2</b>	S&P	A						CCC													D					
	Moody's																									
<b>B-3</b>	S&P	BBB						CCC													D					
	Moody's																									
<b>B-4</b>	S&P	BB						CCC													D					
	Moody's																									
<b>B-5</b>	S&P	B						CC													D					
	Moody's																									
<b>B-6</b>	S&P																									
	Moody's																									

Source: ABSNet

# **Appendix A**

# **Plaintiffs' Holdings**

**Filed Under Seal Pursuant to  
Stipulation and Confidentiality and  
Protective Order, ECF No. 133**

# **Appendix B**

# **Excerpts of Cited Depositions**

**Filed Under Seal Pursuant to  
Stipulation and Confidentiality and  
Protective Order, ECF No. 133**